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[H.A.S.C. No. 109–122]

UPDATE ON THE USE OF COMBAT HELMETS, VEHICLE ARMOR AND BODY ARMOR BY GROUND FORCES IN OPERATION IRAQI FREEDOM AND OPERATION ENDURING FREEDOM

Y 4.AR 5/2 A:
2005-2006/122
Update on The Use of Combat Hel

BEFORE THE

TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

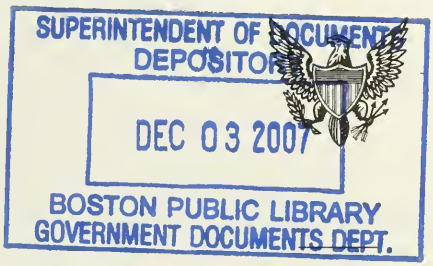
OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

HEARING HELD
JUNE 15, 2006



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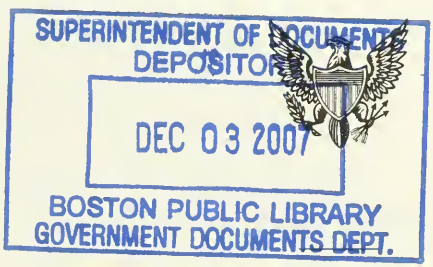

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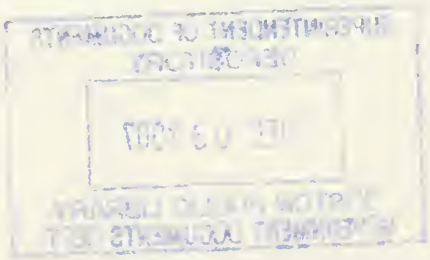

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THURSDAY, JUNE 15, 2006

UPDATE ON THE USE OF COMBAT HELMETS, VEHICLE ARMOR AND BODY ARMOR BY GROUND FORCES IN OPERATION IRAQI FREEDOM AND OPERATION ENDURING FREEDOM

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UPDATE ON THE USE OF COMBAT HELMETS, VEHICLE ARMOR AND BODY ARMOR BY GROUND FORCES IN OPERATION IRAQI FREEDOM AND OPERATION ENDURING FREEDOM

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
TACTICAL AIR AND LAND FORCES SUBCOMMITTEE,
Washington, DC, Thursday, June 15, 2006.

The subcommittee met, pursuant to call, at 3:15 p.m. in room 2118, Rayburn House Office Building, Hon. Curt Weldon (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. CURT WELDON, A REPRESENTATIVE FROM PENNSYLVANIA, CHAIRMAN, TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

Mr. WELDON. The committee will come to order.

This afternoon the Tactical Air and Land Forces Subcommittee meets in open session to continue our ongoing review of Operation Iraqi Freedom and Operation Enduring Freedom force protection issues.

We will receive testimony from two distinguished panels of witnesses. This marks the third hearing this subcommittee has held in the past five months regarding force protection initiatives. The testimony we receive today will provide the status of combat helmets and body and vehicle armor in Iraq and Afghanistan.

Force protection has already been a top priority of this committee and will continue to be a top priority as long as our military is deployed in harm's way. Chairman Hunter and Ranking Member Skelton have provided outstanding leadership and support on this issue, and we thank them for that support.

We are finally turning the corner with respect to meeting the body and vehicle armor requirements for our troops. It has been a hard-fought effort, and there are still many areas for improvements in terms of reforming the acquisition system and maintaining a sense of urgency, but, overall, we have come a long way. As long as our personnel are threatened, we must do everything we can to provide them with the best protection that is available.

Regarding body armor, all military personal serving in Iraq have been issued, at a minimum, the body armor with enhanced armor plates to meet the threat. The Army and Marine Corps continue to direct their efforts toward supplementing body armor with side torso armor. These side torso armor requirements must be fulfilled as expeditiously as possible. The committee understands that the Army is in the process of qualifying additional sources for side

torso armor in order to meet the requirements sooner. We expect to hear more about this strategy today.

We understand the services face a difficult task in balancing the need to protect soldiers and Marines, while at the same time not adding so much weight as to inhibit their mobility and effectiveness. Just as adding armor to vehicles has a downside by creating rollover potential, adding body armor can reduce personal mobility and increase the danger to the individual.

Regarding vehicle armor, almost 100 percent of the vehicles in theater have factory-produced armor, and no vehicle leaves a secure area without armor.

The industrial base for vehicle armor continues to expand. We expect to hear from our service witnesses regarding the status of transitioning from existing armored vehicles to those with even higher levels of protection.

Despite recent press reports regarding the danger caused by rollover potential, I am confident that the additional vehicle armor has saved many lives and continues to help protect military personnel from daily Improvised Explosive Device (IED) attacks.

Driver training and rollover mitigation procedures need to be a priority. We cannot neglect safety, but I am confident that personnel will choose armor over reducing rollover potential by reducing vehicle armor. We can expect to learn more about what is being done to address these concerns.

A new issue before this subcommittee, but one we have been investigating for several months, has to do with combat helmets. We understand that there are primarily three helmets in use by the services, with either padded or sling suspension systems. We also understand that helmet shells used by different services, while at slightly different sizes and weights, provide similar ballistic protection. However, while available test data is limited, results indicate significant differences in protecting against nonballistic impact or blast protection, depending on whether the helmets use padded or sling suspensions systems, with the padded suspension system providing approximately twice the protection against blasts.

Apparently, we have thousands of our military personnel who believe the helmet they are being issued does not provide them satisfactory protection. Are they misinformed, or is there substance to their concerns?

The medical officer of the Marine Corps, in a memo of April of last year, concurred in the official position of the Marine Corps not authorizing the padded suspension system for the Marine Corps helmet. He noted that, quote, comfort, fit and performance, when exposed to cold temperatures and moisture, make the padded system unsuitable for operational use, end quote. This is why, after examining this, we have brought the helmet issue before a formal session of the subcommittee because of unresolved differences on the issue.

When we asked the Marine Corps why some Marines were expressing dissatisfaction with their helmets, the official position was that the Marine Corps helmet provided the required protection. They also expressed their concerns that there was an inappropriate relationship between Operation Helmet and the primary provider of the padded system for combat helmets. In fact, a senior Marine

Corps official accused Operation Helmet of, quote, "abetting war profiteering," end quote.

This same official indicates that the padded system being requested by the Marines in Iraq for their helmet, quote, "does not work. It reduces ballistic protection of the system and does not address the injuries that are occurring most frequently in theater. The lightweight helmet, the Marine Corps helmet, is superior to any other system available," end quote.

In addition, with all the trips that our Members have made to Iraq, we have had no negative feedback regarding helmets from military personnel. However, with a reported 8,000 warfighters, currently 40 to 50 per day, now having expressed a need for a different helmet suspension kit than they have been issued, it is time to get definitive answers. How can so many warfighters be wrong?

The padded system being requested is used by the Army and Special Operations Command (SOCOM). The Marine Corps' own testing indicates that their helmet provides about half the blast impact protection of the Army helmet. The Marine Corps says its helmet meets the Marine Corps requirement, but if it only provides half the blast impact protection of the Army SOCOM helmet we need to understand why this is acceptable to Marine Corps leadership and why it insists on using this sling suspension system.

It is also interesting to note that, while the Marine Corps insists on using the sling suspension solution, the Navy Seabees, also a part of the Department of the Navy, after examining the options available, also selected the Army/SOCOM padded suspension kit for their helmet.

There are also issues regarding Army management of its helmet program. We understand that the Army used the same pattern suspension system for roughly the first 500,000 production versions of its new helmet and then changed its testing criteria and now uses three different manufactures. We want to know whether these different padded suspension systems differ in quality. We expect the service witnesses to help us understand the rationale for using different helmets and different suspension systems and the procedures used to properly test these three systems against ballistic and nonballistic impacts such as blunt trauma. We also need to know what the medical data shows regarding the kinds of head injuries being experienced in theater.

The final issue we want to address relates to recent media reports quoting service personnel saying they do not have adequate medical supplies, specifically, specialized bandages that are used as blood-clotting accelerants. The services claim that they have adequate supplies and that no unit has indicated an inability to get the required bandages. We have asked our witnesses to be prepared to answer questions on this subject today.

My only comment for now on this is that here again, upon examination, we find individual service solutions to problems. With the Army selecting its solution and the Marine Corps using a different blood-clotting accelerant solution, where is the jointness and coordination that we hear so much about?

As the threat to our military personnel continues to evolve, force protection requirements must continue to change accordingly. We as a committee need to be reassured that all force protection pro-

grams are being accomplished expeditiously, the services are communicating with one another, and that every effort is being considered to meet new force protection requirements. Every day we must be able to confidently say that we are doing everything possible to provide our warfighters the best protection they need and deserve.

We look forward to hearing all of our witnesses today on these important issues, and today we have an interesting panel. Before I introduce my good friend, Solomon Ortiz, for his opening statement, one of those individuals who has helped put together a nonprofit foundation, Dr. Meaders, will be our lead-off witness. His story is an amazing story that I will get into before he has the opportunity to speak to us.

Joining Dr. Meaders, in the audience today with him—and we appreciate her taking the time to be here but also for her financial commitment to the needs of our soldiers with personal donations well in excess of $100,000, sitting behind Dr. Meaders is Cher. Cher, thank you for being here.

With that, I would now turn to my distinguished friend and colleague, Mr. Ortiz, for his opening statement.

[The prepared statement of Mr. Weldon can be found in the Appendix on page 51.]

STATEMENT OF HON. SOLOMON P. ORTIZ, A REPRESENTATIVE FROM TEXAS

Mr. ORTIZ. Thank you, Mr. Chairman, for yielding; and I just wanted to mention a few concerns that our ranking member, Neil Abercrombie, had coming into this hearing, which I share along with my good friend. Mr. Abercrombie was unavoidably called away.

I am very concerned that the Army and the Marine Corps disagree about what kind of helmets soldiers and Marines engaged in ground combat operation should wear. Even more concerning is that the two services appear to disagree on how to test helmets and what the standards of protection should be. Why in the world is there no agreement on this, such a seemingly simply issue, three years into the war in Iraq?

It is a shock to no one on this committee that the different services tend to go their separate ways on buying helicopters, airplanes or other expensive equipment. In some cases, there are good reasons for the services to have different equipment. But in the case of a helmet for ground combat, any argument that different gear is required for the Army and Marines strains the bounds of credibility. It is wasteful, and it means that one or the other, either the Army or the Marines, are receiving inferior force protection equipment. This practice of this service all doing their own thing must end. It is wasteful at best and in this case may be endangering our troops.

How did we get into this kind of bind? I have my suspicions. One possible reason for this situation is that the root of all evil is money. All of the military services budgets are under strain due to the war in Iraq, and the way we are budgeting for them through supplemental appropriations, no matter how much some in the Pentagon may deny it, this practice of not fully funding the cost of the war in the regular budget produces lots of bad side effects.

Have testing standards been reduced to save money? Are either the Marine Corps or the Army reluctant to buy a different helmet because of money? We need to know whether this is the case.

I am also concerned that if the soldiers and Marines in combat cannot get the best equipment available, then what hope is there for the National Guard troops here at home? The National Guard already has just 30 percent of its required equipment, and I imagine helmets aren't its top priority if it is short of trucks and radios.

I am confident this problem will be fixed. When it comes to providing protective gears to our troops, this committee has consistently asked just one question, how much money do you need? This committee would provide whatever it takes to protect our troops, but you, the services, must tell us honestly what they need.

Thank you, Mr. Chairman.

Mr. WELDON. I thank my friend and colleague.

As I mentioned, we have two panels here today. The first witness we have is the founder of the charitable organization Operation-Helmet.org, Dr. Bob Meaders, who is also a retired Navy captain. His son is a constituent of mine who first brought this to my attention approximately a month and a half, two months ago. How and why he did this is an interesting story that I will let him tell. It is an amazing story, a family-formed foundation, taking none of the proceeds for any of the administrative costs, using all the money because of a story brought to him by his grandson, who, by the way, is still serving in theater on this very day.

His organization consists of him and his son Mark, who is also retired Air Force, and his wife, who is either active duty or retired Air Force Reserve, uses donations to purchase and send padded helmet suspension systems to warfighters that make requests of them.

It makes no sense to me that our military personnel have to rely on a charitable organization to get the equipment they seem to think they need because their service is not providing it for them. We take our oversight responsibility very seriously. We need to get the facts. If we are not providing the right gear to our military personnel, we need to fix the problem. If our troops are asking in great numbers, as appears to be the case—and I understand there have been 8,000 inserts sent over from this foundation which are being used by our troops—then why don't we issue this to them?

Dr. Meaders is accompanied here today by his wife, LaVera, his son, Mark Meaders, and his son's wife, Carla Jean; and I want to thank them all. They are dedicated and patriotic Americans.

I talked to Dr. Meaders at length; and he said, Congressman, I want to get out of this business. I want to go play golf again. But we appreciate your leadership.

We also want to thank Cher for coming. How did Cher get here? She went on C–SPAN and called in as a citizen when Dr. Meaders was on and said, I want to contribute; I am a part of this. And my understanding is that she has personally contributed over $300,000 to Operation Helmet, which has provided thousands of inserts for our troops in theater.

Now let me say one additional thing about this hearing. It is especially poignant today because Sonny Bono and his wife Mary had been members of this committee. I met Sonny when he first came.

He was a member of our full committee and my subcommittee. We were good friends. In fact, the weekend before he was killed in a tragic accident he was coming to my congressional district for an event for me.

As you all know, Sonny died from a traumatic head injury. Sonny's concern on this committee, as was Mary's when she served on this committee—and Mary is here with us today, an outstanding member of this body—was focused on the protection of our troops. They spent their hours here working tirelessly to make sure back then that we had proper protection.

I, with my colleagues here, attended the tragic—the funeral of Sonny Bono and the tragedy that we had heard when we got the news that Sonny had died. Cher gave the eulogy there. Obviously, I had never met Cher, but I sat in that church and I listened to that eulogy and can tell you to this day it is the perhaps the most emotional speech I have ever heard. It wasn't a written speech. In fact, she said that when she got up there. I can't use my notes. It was from her heart. She talked about the Sonny Bono that she knew.

So it really is a special irony and a really great tribute that Cher would return to this hearing room with Mary Bono sitting here at the dais who served on this committee and with the memory of Sonny Bono in all of our hearts and the great work that he did on behalf for the support of our troops.

And Mary is joined by Steve Buyer. Steve is the chairman of our Veterans Affairs Committee. Steve has served on this committee, Steve has served in theater, and still is a reservist. Steve understands the needs of our military and the results of our military when they become veterans better than any other Member of this institution. So it is an extreme honor to have the chairman of the Veterans Affairs Committee and former member of this committee come today to show you, Dr. Meaders, how seriously he takes this issue. Steve has been doing significant work on the helmet issue, and he will have some questions for you.

We are asking special approval today to have the chairman of the Veterans Affairs Subcommittee sit as a full member of this committee, with Mary Bono and other members, so that they can join in the questioning.

So this is what we told you we would do a month ago. We do work quickly, government does respond, and we want you to know our support for the warfighters is unwavering. There are no political consequences here. We are going to do the right thing, and we will put whatever amount of money is necessary. That is the role that Democrats and Republicans on this committee and this Congress have consistently taken.

Our second panel today includes witnesses representing the military services, and we have distinguished leaders of our military.

From the Army, Major General Stephen Speakes, Director for Force Development, Army G8.

Marine Corps General William Catto, Marine Corps Systems Command. General Catto, welcome back.

Representing the Navy, Roger Smith, Deputy Assistant Secretary of the Navy, Littoral and Mine Warfare. Roger, welcome back in

your new capacity. I'm not promising to go easy on you, but we know that you can handle it.

Representing the Air Force, Major General select Gary McCoy, Director of Logistics Readiness, Office of the Deputy Chief of Staff for Logistics.

We thank all of you for joining us. We look forward to your testimony.

We would like to proceed with the first panel's testimony, but, without objection, I would say that all of your written statements will be included in the record, including yours, Dr. Meaders. We ask that you summarize whatever comments you want to make, and then we will allow members to ask questions, and we will operate under the 5-minute rule.

With that, we will turn the floor over to you, Dr. Meaders, for whatever statement you would like to make. And again, welcome. Thank you for being here, but, more importantly, thank you for your service to the country and thank you for, in your retired years, coming back and responding to your grandson's request for help. I would ask you to go into that story for us here today so that all of us can share in the outstanding American story that you represent. Thank you.

STATEMENT OF DR. BOB MEADERS, MD, CAPTAIN, MEDICAL CORPS, U.S. NAVY (RETIRED)

Dr. MEADERS. Thank you, Mr. Chairman and honored Members of Congress and all the military who are here. You are needed, wanted and loved by the American people; and we offer you all the support that we can.

This whole thing started out as a single-event mission. My grandson, who is now a Marine Sergeant, at the time was a young Lance Corporal in training at Twentynine Palms, California, for convoy duty. A gunnery sergeant just back from Iraq gathered the troops around and said, look at my helmet, it has got an upgrade to it, and if you are smart you will get one for yourself, it might save your life like mine.

My grandson called me up and said please check this out and see if this is for real or not. So I went to my various old friends in the Navy and in the Army Air and Medical Research Lab and several civilian groups doing blast research and they said, yes, this is good. As a matter of fact, when we were deployed over there we had these in our helmets.

At the time, we were talking about the Personal Armor System, Ground Troops (PASGT) helmet, which was this particular helmet, the problem of which is the nylon strap that separates your head from the helmet, there is nothing between the helmet and your head except air and that piece of nylon. This helmet is great at deflecting bullets, but with this between your head and the helmet, when a blast force strikes this helmet, or large fragments from the blast force, or you are getting tumbled down the road or inside your vehicle, this helmet slides over, contacts the skull in an area of about the size of a ball peen hammer and will cause skull fractures, intercranial hemorrhages of various sizes, brain bruising, and can lead to long-term disability or death.

So without further ado, we purchased some of the kits that turned that helmet into what looks like a very good National Football League (NFL) helmet.

These helmet kits that we purchased are filled with shock-absorbing pads that are Velcroed to the surface. And these pads are very sophisticated; these are not just your ordinary kitchen sponge. They are a combination of slow and rapid crush foam. The rapid crush foam allows the helmet to deflect momentarily when struck by a missile; the slow crush foam absorbs the energy and spreads it out over a larger area of the head. So instead of getting hit by a hammer you are getting shoved by the palm of your hand. It makes a tremendous difference in the survivability of a blast evolution.

So we sent my grandson a few kits, enough for his rifle team, and they put them on and wore them for a couple of days' training. He called back and said these are wonderful, but we feel like we can't wear these unless we can get them for our whole company. And we swallowed hard and we said, how many of those do we have to come up with? And he said a hundred. So we went around and knocked on doors and gathered up the money and sent them a hundred by the time they got in country. And that was our only mission at that time.

Then in country the other troops saw them being able to run across the sand without having to hold their helmet in one hand and their weapon in the other. When they were in prone firing position, they didn't have to stop and slap the helmet back when the another guy behind the berm was standing there in a stationary position. When they wore night vision goggles, they didn't have to hold them up to keep their eyes uncovered. And, strangely enough, they found them sleeping with using these helmets as a pillow, using the internal padding.

So we began getting requests from other units nearby. And as word spread from mouth to mouth, obviously, it was going to be a much larger job. So a very generous lawyer there in Texas said, let's just set you up as a corporation, and then we will do a 501(c)(3) and people's donations can be tax deductible, and off we want.

So from an initial standpoint of a hundred, as of today we are—like I said, about 8,700 have gone over to the troops, which is a drop in the bucket compared to what is needed. But I hope it makes some difference. And if we just all get together and save one life, then we have done a good thing.

The Army—some time back I got a call from the Army Chief of Staff's Office; and they said, Dr. Bob, we are purchasing helmets that have these pads from the factory installed. You don't have to do that anymore. So that left me with just the Marines who were wearing this old-style helmet, with the Navy Seabees who were beginning to evolve into a new duty of running convoys, and Air Force guys.

The Army was spread too thin, so they said you drive your own trucks and get your gear from point A to point B, and that exposed them to the IEDs, suicide attacks by vehicles. Sometimes when the over-armored vehicles start rolling over, you are rattled around like a BB in a tin can, and your head slams up against the side of the

vehicle. Once again, helmets go in contact and sometimes fatal results—and even nonfatal results. If you get hit often enough like that, with a sharp blow rather than a push, you develop chronic traumatic brain injury with neurocognitive problems later in life where you can't remember—well, I can't now sometimes—your wedding date or your home address or what you are doing when or the relationship between things—it is called executive functions—start going by the board.

So we were very fortunate to have the general public, the Marine families especially, pitch in and begin helping. And word spread generally throughout the country by means of television, radio, newspaper articles, and great citizens like Cher who stepped forward and said, how can I help? It is not about me. It is about what can we do for the troops and what effect can we have.

The only thing that really changed was that when the new Marine helmet came out that is similar in size and shape to this one, except it has much more bullet resistance, it has 30 percent more bullet resistance, so it is a darn good helmet. But the suspension system in this one, which likewise is suspended in such a fashion that in a blast evolution the head can rock back and forth and allow the helmet to contact it and your head becomes a clanger in a Kevlar bell and it will do significant injury to you.

So we thought we would be able to step down from that when the new helmet came out, but we looked at that and said maybe we better do some studies. So we did some studies in private labs and found that the blast resistance was not much better than the old helmet, while the bullet resistance was excellent. So we set off to begin trying to convert a really good helmet into a great helmet by just inserting the pads. And since then the program continues the pace, and folks keep donating money, and we keep sending the kits. And that is where we are today, Mr. Chairman.

Mr. WELDON. Thank you, Dr. Meaders.

[The prepared statement of Dr. Meaders can be found in the Appendix on page 54.]

Mr. WELDON. I am going to allow us to operate under the five-minute rule, including the chairman and ranking member, to give everyone a chance to ask questions. So I would ask that the five-minute light be put on.

And just for the purpose of your first appearance before Congress, the empty seats don't indicate a lack of interest. This is a subcommittee of the full committee. So on the subcommittee you don't have all the members, and so other members are at other hearings. There is a markup across the hall. Plus we are debating on the House floor, and a lot of the members are there. So I don't want you to think that somehow the empty chairs are an indication of a lack of interest. That is not the case. In fact, we have a great representation of members from both parties today, which indicates a strong interest in this issue.

Dr. Meaders, you were a Vietnam veteran, correct?

Dr. MEADERS. Yes, sir.

Mr. WELDON. And you also were a medical professional in the military, correct?

Dr. MEADERS. Yes. I was a Navy doctor.

Mr. WELDON. And did you not focus on head injuries and injuries with the eyes and all? Wasn't that your specialty?

Dr. MEADERS. Well, as an ophthalmologist and a flight surgeon, I saw a lot and would help with facial reconstructions in people who had significant facial and head injuries.

Mr. WELDON. So your expertise in the military was, in fact, in the medical area where you dealt with these kind of head injuries. It wasn't something that you did not know anything about. You knew something about this.

Dr. MEADERS. Yes. I don't want to put myself across as a brain injury specialist, because I am not, but on a practical level we saw them and treated them, and we saw the devastating effects of them. And seeing one is enough to last you a lifetime; and if there is a way that subsequently we can do something to prevent it in the first place, then good.

Mr. WELDON. As I mentioned in the opening statement—and I want to repeat this for my colleagues and for the public—all the money you raised for this foundation you put out the back door to buy the inserts, is that correct?

Dr. MEADERS. Yes, sir. We don't take a dime or salary or expenses that way. When we travel up here, it is on our own dime. And my son Mark does the same thing. He goes around and talks to people.

You know, money doesn't do any good in a bank or in your wallet or stuffed somewhere where it doesn't protect you, but the helmet kits save lives.

Mr. WELDON. And you don't have any vested ties to any vendor, do you?

Dr. MEADERS. Well, Oregon Arrow sent me a T-shirt and a ballpoint pen and a cup for my birthday, but, aside from that, no.

Mr. WELDON. And it was pretty outrageous to me to hear that someone would lay out the premise that somehow the purpose of you doing this was somehow being tied to a vendor. You are probably as disgusted as I am that someone would even suggest that.

Dr. MEADERS. Yes. We have purchased from several vendors, and we whittled it down to the one basically that I would want on my head if I were a front-line combat troop and I would want on my grandson's head.

Mr. WELDON. And, correct me, weren't these vendors also approved by the military?

Dr. MEADERS. Yes. Oregon Arrow was authorized by the Marines for this particular helmet, for the PASGT helmet, authorized but not funded I think was the way it was put.

As far as the new Marine lightweight helmet, there has been disagreement about its use, so that is why we undertook some of the studies to make sure that if we replaced this with the pads that, number one, it would do no harm and, number two, that it would do some good. And that good we hope is decreasing injuries from blast evolutions in which the blast is survivable and there is no fragment or bullet penetration of the brain and we can diminish the concussive injuries to the head.

Mr. WELDON. How much have you raised in total from donations from the public?

Dr. MEADERS. I would say somewhere around $800,000 or so. I don't keep a lot of dollar numbers in there, although we have got a CPA that does that. We figure there are a number of troops that got their head in a better bucket.

Mr. WELDON. And we know that you are not here to do this, but you might want to acknowledge your largest donor to that fund.

Dr. MEADERS. Yes, exactly. Cher has been a major contributor and just a wonderful supporter. Like I said, she came to me and said, this is not about me; I would love to come up there and hold your hand while you are in front of the committee. And I said, that is great; I would love it. She has been a great press relations (PR) person and is now our celebrity spokesperson to get the attention of people. Because so many say, if I had known about this, I would have been a donor a long time ago.

Mr. WELDON. Is it true that you and she are going to do a gig together?

Dr. MEADERS. I refuse to answer on the grounds that it might get my head knocked around.

Mr. WELDON. One final question. Can you summarize some of the e-mails you have received from military personnel requesting the kits and the feedback from those that use the kits? If you could just summarize that for us.

Dr. MEADERS. Yes, sir. We have had just e-mail after e-mail from the troops that know they want it and have heard about them, anecdotal things about how they perceive the benefits from them.

Just recently we got, as a matter of fact, a telephone call the day before yesterday from a young Corporal who is in the Camp Lejeune Naval Hospital recovering from shrapnel wounds to his neck and shoulders. He called me up and said, Doc, can I have a new helmet insert? And I said, well, sure, what happened to your old one? And he said, when the rocket hit the wall behind me and exploded, it shredded my helmet completely and filled my shoulders and neck with shrapnel. They are taking care of that. But the good news is it didn't hurt my head at all, it just destroyed my helmet, and the pads probably saved my life.

We hear that type of story over and over, people ejected from the upgun on the High Mobility Multipurpose Wheeled Vehicle (HMMWV), being blown out of a truck, tumbling down the road, slapping heads and heels, and being able to get up and get back and help the rest of the guys out of a burning vehicle and/or mount a perimeter defense for whatever is going to follow.

So, anecdotally, we say, yeah, it works. And it is a hard thing to prove, I guess. If you stood up 10 guys in a row and hit each one a little bit harder until one of them died, then you could say this is the level of protection that we need, but—so we have to go on information from the Brain Injury Association, who is here with us today, from the National Football League that mount G force meters in their helmets and show how much people get whacked in the head and soccer players that mount them in their headbands.

So there is pretty good information about what levels of impact forces will result in headache, loss of consciousness, contusion and, ultimately, fatal injuries.

Mr. WELDON. Doctor, you and your family are the outstanding example of what Americans are all about; and we appreciate your commitment to the country and the work that you have done through the foundation.

With that, I will turn to my good friend and colleague for his time. He is the ranking member on this committee and a good friend of mine from the State of Hawaii, Mr. Abercrombie.

STATEMENT OF HON. NEIL ABERCROMBIE, A REPRESENTATIVE FROM HAWAII, RANKING MEMBER, TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

Mr. ABERCROMBIE. Thank you. Thank you very much, Mr. Chairman.

I want to thank Representative Ortiz for picking up for me here because I was not able to be here in time. Doctor, that was not a slight to you, I assure you. It was a logistical problem I had getting here.

Some of this you have, I think, answered, but I want to get a little bit more specificity. Because I can assure you the chairman will put specific numbers and policies into effect, should he move forward in this area, and we need to make sure that we have our facts correct.

I have read through all the testimony, but I am still not quite sure from the end of it and I would like your opinion—or your judgment—why are the Army and Marines using different helmet systems? I am still not clear after all of the reading in here.

Dr. MEADERS. Well, it is kind of beyond my pay grade to make those decisions for the Marines.

Mr. ABERCROMBIE. Has someone discussed it with you? Could you give an observation then? If you can't, that is all right.

Dr. MEADERS. The people that discuss it with me are the troops out in the field. They say, we have a great helmet for bullet protection, and that is what we thought we were going to be facing, and the evolution of IEDs, suicide vehicles and vehicle rollovers that slam us around inside are something for which we weren't prepared. And we would like to take care of that, so that is what we do.

Mr. ABERCROMBIE. So you haven't gone into the question of why there may be a difference in——

Dr. MEADERS. No, sir.

Mr. ABERCROMBIE. Okay. You mentioned that you hear this quite a bit. Do you actually have figures on how many requests you have had for the padded helmet liners? Are you able to keep statistics, or is your organization not quite up to——

Dr. MEADERS. This is three weeks worth of requests right here from the troops out in the field.

Mr. ABERCROMBIE. So you are keeping records, in effect, of the requests.

Dr. MEADERS. I am sorry?

Mr. ABERCROMBIE. So you are keeping records, in effect, of the requests?

Dr. MEADERS. Yes. We keep every single e-mail that comes in. Every dollar that comes in, we get the name, address of the person.

And some of them, donations will come in and say this is in memory of Colonel X, Y or Z.

Mr. ABERCROMBIE. So if a staff works with you, it will be more than just anecdotal or verbal recollection. You have some paper trail, so to speak.

Dr. MEADERS. Yes, we do.

Mr. ABERCROMBIE. Thank you.

Do you have—well, I would really be asking the same question over again of why we are using different systems, and we will maybe get to that in the second panel.

I just wanted to indicate, with the Chairman's reference to what you term celebrity spokeswomen—spokeswoman in this particular instance—I was amused to hear a conversation this week that had Mr. Redford, Robert Redford, on it. He was asked the same question about what makes it that someone who is—why should we pay attention because someone has a celebrity status of some kind? Why should we pay attention then? He said, I thought that was handled, at least for the Republican side of the aisle, when Ronald Reagan became President.

With that, Mr. Chairman, I will turn it back to you.

Mr. WELDON. Thank you, Mr. Abercrombie, for your great work and your leadership on this committee.

I will turn to the gentleman from Nevada, Mr. Gibbons.

Mr. GIBBONS. Thank you, Mr. Chairman.

And, Dr. Meaders, thank you very much for your presence here today and for your testimony and for the great work you are doing for the young men and women.

I am stunned, stunned that our military doesn't have the foresight to see the need for an insert like this and has not seen the need for an insert like this over the years. We have looked at or have watched the evolution of the National Football League and their helmet systems over the years. They have been out front, leading the way. You would think that some of the knowledge base, the institutional knowledge base of helmet design and protection of the head would have been transferred from those professional institutions to our military.

My question would be, are any of the efforts, the work that you produce, protected either by patents or some type of proprietary restrictions?

Dr. MEADERS. No, sir. Everything we do is aboveboard——

Mr. GIBBONS. So there is absolutely no excuse for any company, any organization to say we couldn't do this because it was patented.

Dr. MEADERS. Yes.

Mr. GIBBONS. You know, cost versus performance has always been the bottom line of what I have seen in the military. But in this case the cost is the ultimate brain injury, which is far more expensive than the cost of an insert—if it is more expensive—than the sling pad construction helmet. So do you have a difference in the cost between what is sling pad or a pad sling—whatever that system is for suspension—sling suspension versus pad suspension would be for a helmet?

Dr. MEADERS. Well, the pad system that upgrades the new Marine helmet is 71 bucks, and that replaces what is in there. So I

don't know what that costs if you were to say to the factory don't put that in but put this in.

For the helmet that the Air Force convoy and the Marine Seabees and some of the coastal patrol boats are using, which is the old helmet, it needs more work to be upgraded to a very safe helmet, so that is about 99 bucks.

But, once again, I don't know what it would be if you got it directly from the factory without that originally so you don't have to replace anything.

Mr. GIBBONS. So in order to incorporate your pad protection or your pad suspension it would require, for an original helmet without the new upgraded sling suspension, about a hundred dollars.

Dr. MEADERS. Yes, sir. Now, understand, we don't manufacture anything. All we do is purchase them and send them.

Mr. GIBBONS. Okay.

Mr. WELDON. Would the gentleman yield on one point?

Mr. GIBBONS. I would be happy to yield.

Mr. WELDON. You might want to, as a follow-up to Mr. Gibbon's comment on the setasides, I think you had indicated to staff that that has been a problem in the past, where there are requirements for setasides in producing these pads for certain groups.

Dr. MEADERS. I am sorry, would you——

Mr. WELDON. The setasides. I think staff has told us that you discussed with us the problems that have occurred when there are forced purchases through certain groups that might lead to an inferior capability.

Dr. MEADERS. Well, as I understand it, there is what is called a Javits, Wagner, O'Day Program (JWOD), where you have to purchase certain materials manufactured by the National Institutes for the Blind and Severely Visually Handicapped, and sometimes that is hard to do with a complicated manufacturing process. I am sure that they could always be included in the process. Somewhere along the line they will help them get the funding they need for the wonderful work that they do.

Mr. GIBBONS. Have any of the other services or even the leadership of the Department of Defense (DOD) come to you and talked to you about this system, about incorporating the results of your effort and your information into their new purchases of helmets?

Dr. MEADERS. No, sir. I can't say that I have been approached like that. I would love for them to take it over so I could quit and go play golf.

Mr. GIBBONS. Well, that is what is surprising, obviously, it is working. The word of mouth that is out there in our military among the troops is very effective in terms of awareness today of the improvement in their helmet by what you have done or what you have provided them. And it stuns me again that the industry that is responsible, the Department of Defense, which is responsible for that industry, and the soldiers haven't taken the opportunity to improve the helmets they have out there.

To me, I think there is a clear choice here. We either protect the lives of our soldiers, or we don't send them. And if we have the ability to protect them, we ought to do everything that is possible to do that.

Again, I want to thank you for what you have done. You have certainly enlightened our committee, and we are very proud that you took the time and the effort out of your years of hard work and dedication to this country to do one more thing for our troops. Thank you.

Thank you, Mr. Chairman.

Mr. WELDON. I thank the gentleman.

The distinguished gentleman from New York is recognized, Mr. Israel.

Mr. ISRAEL. Thank you, Mr. Chairman.

Doctor, thank you so much for your service and your sacrifice; and let me also thank Cher for the critical work that she is doing and for lending her celebrity status to this effort.

You know, there is a saying that politics is show business for ugly people; and this panel is probably graphic testimony of that. But Cher's presence here is extremely important—who said speak for yourself? Cher's presence is very important because it does help draw attention to this critical issue. I would imagine, as has been stated before, that if we were having a hearing on this issue without the presence of a celebrity we would not have the number of photographers that join us today.

There is lots of talk about sacrifice in the Global War on Terror, Doctor, as you know. People say that America is fighting a war on Iraq. America is not fighting a war in Iraq. 130,000 Americans are fighting the war on Iraq. The rest of us are watching it on television.

We are going to pass a resolution at some point this evening that honors our troops. But, somehow, when it comes time to actually sign the check and make sure they get what they need, we fall short or it is too late. So this is essentially a matter of priorities. If we can find $2 billion in tax cuts for the richest oil company executives on earth, we should be able to find the money so that everybody in theater gets that equipment so that you don't have to spend your time and your dime raising money for that.

Mr. Chairman, I have some specific questions about another force protection issue, and that is coagulants, for the second panel.So I will yield back my time and save my time for the second panel.

Thank you. And thank you again, doctor.

Mr. WELDON. I would thank the gentleman.

I would just note for the record that this committee with Democrat and Republican support has consistently put more money in than even Democrat or Republican Administrations have requested consistently to make sure that our troops are protected. I don't think we have ever had a question where individual personal protection was not funded by this committee, and I take great pride in both Democrat and Republicans leading that effort.

With that, we will go to our distinguished gentleman from Texas, Mr. Conaway.

Mr. CONAWAY. Thank you, Mr. Chairman; and, Dr. Meaders, thank you for being here today and for your work.

I am going to yield to my good colleague and friend, Steve Buyer, from the Veterans Affairs Committee.

Mr. BUYER. Thank you to my colleagues for allowing me to be here today.

Mr. WELDON. Excuse me one minute, Steve. I have to get—after consultation with the minority, I now ask unanimous consent that Mr. Buyer, Chairman of the Veterans Affairs Committee, be allowed to speak in today's subcommittee hearing and be authorized to question the witnesses.

Mr. Buyer would be recognized at this point at the conclusion, but obviously he has been yielded to, so that is fine. Hearing no objections, so ordered.

Mr. BUYER. Thank you very much.

Those of us who serve on the Veterans Affairs Committee—and Mr. Simmons was on the committee for a while—we are dealing with the consequences of war. So when we started dealing with many of the blast injuries, we then—Congress created four polytrauma centers. There is one in Minneapolis, Richmond, Tampa and Palo Alto; and now we have gone into second tiers. So we are taking care of the men and women who are suffering from these injuries, and the helmet has come to be an issue. And what I don't know, sir, is whether the apparatus which you are describing is going to be the solution.

Some of the results that we are dealing with are, obviously, some of the blindness. We are dealing with hearing loss and traumatic brain injuries. But we also have caused this—it wasn't just the helmet in and of itself. Because when we have done everything we can to purchase body armor—before when there was a blast, part of the torso would absorb a percentage of the blast. Now when we put on the body armor, what is exposed are the extremities. When the blast hits the chest, a percentage of it goes up into the face. So we then deal with the maxiofacial, the nasal, the eyes, the ears. So when we have a concussion, we also have the reconcussion.

So this helmet, while the force goes up into the helmet that is strapped on, there is no release of the energy. So the energy goes up, it settles back. And where does it settle back is the pressure upon the brain.

Now I am not a neurosurgeon, and I know you aren't either. So what we are desiring—first of all, let me compliment you in trying to seek a solution, because that is what we are going to do; and, Mr. Chairman, let me thank you for this hearing in a bipartisan basis for you to proceed on this issue. We are going to do the same thing on the Veterans Affairs Committee, and it is whether or not we are going to dedicate research dollars to do just that.

What I don't want to do is I don't want to have redundancy. And you have got research dollars, we have got research dollars, and somehow we need to come together on how we provide the research to make sure that the helmet is right. Because the key is, how do we manufacture a helmet that does not compromise the integrity of its purpose, yet has some form of ventilation system that allows the energy to disperse? And therein lies our challenge. And I am sure that you have had to examine part of what I have discussed, correct?

Dr. MEADERS. Yes, sir.

If you would like a response, I have spoken to some demining companies in France and Israel and some in the Netherlands that

do these commercially, and they quit wearing helmets. Instead, they wear a blast-deflecting shield.

But I posed the question to them: If you compare the scoop effect of a hollow helmet with nothing but air between your head and the shell versus the scoop effect of a helmet in which probably 80 percent of the air is now occupied by these pads, if you will, what effect does that have on the, as you say, the impact and the reimpact? And they said, you know, we have never thought about that. We always just used the old-style helmet, but we are going to look into it.

So at this point in time, no one really has the answer yet.

Mr. BUYER. I don't want to be as hard on DOD as some may, because we here in Congress have also caused part of that problem. It is the demand of the American people to do everything we can to do force protection. So we here in Congress do what we can, yet we are also causing new types of injuries in furtherance thereof. So as we do this, this cause and effect, we have to follow it.

Now DOD also needs to be highly responsive to that. And Mr. Simmons and I were just talking about how easy it is for other countries. We have got this sophisticated acquisitions system. You can go out and you can make immediate change and give it to the force faster than what DOD can through acquisition. They can't buy them until it is researched to death. So therein lies our challenge.

I want to work with the Armed Services Committee on this. I appreciate the indulgence of my colleagues; and thank you, sir, for your leadership.

Dr. MEADERS. Thank you, sir.

Mr. WELDON. The gentleman from Texas still has time.

Mr. CONAWAY. I yield back the time. I just want to once again thank Dr. Meaders for your hard work in this effort for our troops, and Steve's comments. I yield back.

Mr. WELDON. I thank the Chairman for being here.

The gentleman from Pennsylvania, Mr. Brady, is recognized.

Mr. BRADY. Thank you, Mr. Chairman. I would like to thank the doctor and his family for bringing this issue to light, to this committee. It is almost embarrassing that we didn't think of it ourselves, but we tend—from time to time we need to be prodded along and bring issues to us.

You know, war changes. When we first went into this war on the ground, we thought that we would be getting shot at. And the helmet, as you said, is a great protective piece of equipment, but now we are getting blown around and our brains and our head are getting banged around, and what you have now hopefully puts our men and women a lot safer.

I would like to thank Cher, also, because of the celebrity status, as my colleagues said, that we do need, and it brings a whole lot more light to an issue that needs to have that happen. I thank her for her concern for the men and women that are in harm's way.

As we said, we are sitting here in air conditioning and pretty safe. We walk through metal detectors and dogs go around our cars and we are pretty safe. But our men and women aren't, and we need to do our job to make sure that they are safe. So I thank you for that. I think you are a great patriot.

We have got a great bipartisan committee. I am really glad to know we have two bipartisan committees, with our chairman of Veterans Committee telling us that he has some research dollars to put in. We have a great chairman that isalways out there fighting for our men and women, and we have some money to put in. Hopefully, by doing that and having this hearing, we can get you back on the golf course, Doctor. You deserve it. So thank you very much for being here.

Dr. MEADERS. Thank you, sir. The response across America has been—regardless of how we feel about the war, we love, respect and want to support our troops; and that is the wonderful thing that has brought this all together.

Mr. WELDON. First of all, I want to thank the gentleman for his questions. I just note for the record he is a labor leader from Philadelphia, so if anyone knows about the need to protect the head from construction injuries, our good friend from Pennsylvania is that person. He is an outstanding member of this committee as well, and I thank him for his line of questions.

With that, I will turn to the distinguished gentleman from Carolina and the number one leader, Walter Jones, on all the veterans' issues for us. Walter, you are recognized for five minutes.

Mr. JONES. Mr. Chairman, thank you very much.

I guess when I see Cher—I was elected in 1995 with that class of Republicans. About 70 of us came here storming. And the first time we had an Armed Services meeting here, we were here late at night, and I tell you, your husband—former husband, I guess, at that time—he kept us up all night, kept us awake. He was just a great guy, and we will always remember him as long as we have life, that I can promise you.

Dr. Meaders, I want to say thank you. I have Camp Lejeune Marine base in the district that I represent, the 3rd District of North Carolina, and I am like everyone else, I guess. You know, the Department of Defense has a tough job whether we are at war or peacetime, but especially at wartime, to making sure that the troops get what they need to protect themselves. But how many—you said you raised roughly $800,000—I am sorry, I was in and out——

Dr. MEADERS. Yes.

Mr. JONES [continuing]. And you had how many requests for helmets from those who are serving?

Dr. MEADERS. I am sorry? I am not sure I understood the last part of your question, but we manage a waiting list of about 10 to 1,200 troops all the time. And when someone like Cher steps forward and says here, I am going to help you wipe that out, the more kits we send out, the more troops learn about them, and the more requests we get. So it is a never-ending process with the turnover of troops and the spread of the word.

Mr. JONES. Since you started this effort—and again, everyone that has helped you, including Cher, God bless you all—but have you been contacted by the Department of Defense or by the Marine Corps? I mean, has there been some communications to you that, you know, Doctor, we understand that you are getting X number of requests from the battle front? Did you get any inquiries from

the Marine Corps, the Department of Defense as to this effort and what kind of information you were getting from the troops?

Dr. MEADERS. No, sir, we have not had any direct communications saying, you know, how many are out there and why are they asking. That has not been our focus. Our focus is just to put the heads in a safer helmet.

Mr. JONES. Well, I am not being critical because—God bless them all, but I will tell you that I heard about your effort on—I am a conservative Republican, but from time to time I listen to Air America, and I really think I have gotten to be a fan of Randi Rhodes—I don't agree with her on everything, but I listen to her quite frequently. But that is when I first heard about it.

I guess we can find out with the next panel, but I would think, with such a national effort and a national concern about our troops having the proper helmet liner, you would think someone from DOD would have made an inquiry, just out of curiosity if nothing else.

I am not being critical, but I again just want to say to the chairman and the ranking member that I am pleased that we are having this hearing, that we are having an opportunity really to say thank you to you and others for your patriotism to this great Nation and to help our men and women in uniform to be better protected. So I look forward to hearing from the next panel.

I yield back my time, Mr. Chairman.

Mr. WELDON. I thank the distinguished gentleman.

Mr. Bartlett is recognized.

Mr. BARTLETT. Thank you very much.

Mr. Chairman, as I sat here listening to this testimony, I asked myself, I wonder how many other places in the world this might happen.

You know, this is really a great country, and I think that this happened in our country—and I doubt that it could happen anywhere else—because of the enormous respect that we have for the rights of the individual. It was the primary reason that our Founding Fathers came to this country, and they embedded in our Constitution their conviction that the rights of the individual is preeminent to all other rights. There is no other constitution, no other Bill of Rights in the world that gives such rights to the people, and I think that that created a climate in which this kind of individual activity can go on.

I want to commend you, Doctor, for doing this. I don't think there is anywhere else in the world where people feel such a personal responsibility that would induce somebody like Cher to step forward to give not just her money but her enormous influence to this.

So, Mr. Chairman, I want to commend the doctor for doing this; and I just believe that the climate that permitted this, the rights of the individual—you know, I am a little more concerned about the threats to those rights than I am about the threats of al Qaeda; and I think when we fight this war we need to be very, very careful that we don't permit our zeal to catch terrorists to erode these incredible rights of the individual that are so important. I don't think we would be sitting here today, sir, having this testimony except for our great Constitution and our great Bill of Rights that establishes this climate where this kind of thing can take place.

Thank you for this hearing; and thank you, Doctor and Cher, for your contribution to what makes America great.

Dr. MEADERS. Thank you, sir. The thanks go to all the military people, past, present and future, who are out there making it possible for us to do this and the American people that gather together to say how can we help.

Mr. WELDON. I thank the gentleman for his questions.

I will just acknowledge, Doctor, he is also a Ph.D. He is a physiologist from Johns Hopkins University; and Congressman Bartlett has 20 patents to his credit, including patents dealing with breathing systems. So he is very much concerned with issues like the ones that we are talking about and is an outstanding expert.

After consultation with the minority, I now ask unanimous consent that Mr. Simmons, as a member of the House Armed Services, is going to be authorized to question panel members at today's hearing.

If there are no objections, I will now recognize Mr. Simmons for fiveminutes.

Mr. SIMMONS. I thank the chairman for holding this terrific hearing, and I thank the members for the courtesy to allow me to make a few comments and ask a question.

Like you, doctor, I am a Vietnam veteran; and I say welcome home to you. I really appreciate the efforts that you have made.

A couple of years ago, I went to Iraq and I discovered that, with the changing combat conditions, our HMMWVs were improperly armored. And I took it upon myself, with the assistance of members of this committee, including Chairman Weldon, to go out into industry to see what was being done to provide uparmor for our troops as well as body armor. What I discovered was there was a substantial amount of creativity out there, but the red tape and the bureaucracy that we encountered was very substantial. Clearly, the costs of uparmored HMMWVs and even of body armor substantially exceed the costs of the inserts for helmets, and so this subcommittee and the full committee had to reauthorize and we had to reappropriate dollars for that purpose.

It took about 2 years. But what I learned from that experience was that we have the very best fighting men and women in the world in our Armed Services. It is an all-volunteer force, and they are highly motivated.

But sometimes the bureaucracy and the red tape prevents the system from being nimble and flexible. Nimble and flexible. And even though private individuals and the members of the free market system wish to participate, it is hard to move forward.

And I would just congratulate you, congratulate Cher and all of the other contributors to your effort, because I know firsthand from wearing the helmet for over 30 years that it has got to be right. It has got to work right. And I also remember the lesson my father taught me when he first taught me how to shoot back when I was 10- or 12-years old. With a 410 shotgun, you don't have to snug it next to your shoulder; but when you pick up that 12-gauge, you had better snug it on your shoulder or you are going to be badly bruised. And that is exactly what you are talking about. If you get pinged with a round of 7.62 ammunition, it doesn't matter; that helmet is going to work. But if you get hit with a blast and you

don't have something to cushion the blow, you are going to be seriously injured.

And so I thank you for having the inspiration and your supporters for having the patriotism to participate in this. And I will tell you, as somebody who is concerned about our veterans, who has served for four years on the Veterans' Affairs Committee with Chairman Buyer and is on this Armed Services Committee, we are going to fix this, and we are going to fix it right away. And I thank you for your citizenship and your patriotism.

I yield back, Mr. Chairman.

Mr. WELDON. I thank the gentleman for his comments and for his commitment also to the welfare of our troops.

After consultation with the minority, I now ask unanimous consent that Mr. Wu, a member of the Science Committee, be authorized to question the panel members at today's hearing. If there are no objections, I will now recognize Mr. Wu for five minutes, and welcome him to the committee.

Mr. WU. Thank you very much, Mr. Chairman.

And thank you very much, Dr. Meaders, for all of your good work. My questions will primarily be for the next panel.

There is an active pro-school and peace movement in Oregon. You will see bumper stickers all the time that say, wish that, when the Pentagon would go into war, they had to hold a bake sale to do that. I think that is meant as a joke. I certainly don't believe that, and I commend you for your work.

But the question I will have for the next panel is that we have appropriated money, with Mr. Brady's help, with Mr. Murtha's help, for the specific helmet liner kits that you are talking about, and we have appropriated several million dollars a couple years ago, and we asked for $5 million for this year. And I am wondering where that money has gone, because it is more than an issue of what is happening with taxpayers' money; it is a matter of what is happening with soldiers' lives in the field. And I am very, very concerned about where the money that we have already appropriated has gone and where the money will go that we are highly likely to appropriate now. But I commend you for your work in the private sector meanwhile. Thank you very much.

I yield back to the Chairman.

Mr. WELDON. I thank the distinguished gentleman for his service.

And it now gives me a great deal of pleasure to recognize a very special person who has served on this committee for a number of years and who was one of our best members and most committed members to the health, welfare and safety of our troops. And I had the unfortunate pleasure of meeting her at a very difficult and emotional time for her, but she has really risen to become a star in this country and we deeply appreciate her involvement here.

After consultation with minority, I ask that the gentlelady, Mrs. Bono, a member of the Energy and Commerce Committee, a former member of this committee, be authorized to question the panel members at today's hearing. If there are no objections, I will now recognize Mrs. Bono.

Mrs. BONO. Thank you, Mr. Chairman.

I like to very much thank you for including me in today's hearing, and to our witnesses. It is not a question; it is a typical congressional point I would like to make, and that is to, first of all, thank you for your initiative. So often our answers come from the American people, and clearly that is the case with what you have done here today.

I, of course, have to welcome Cher to Washington, D.C. It is a pleasure to have you here. A lot has been said about Sonny. This is not about Sonny, although I do know that he would be extremely proud and support what the good doctor is trying to do today. There is nobody in this country that Sonny loved more than any man or woman in uniform who devoted themselves to protecting our country. So with that, if anybody can be on the record for him, I would like to do that.

But Twentynine Palms is not in my district, Marine Base, but it is near and dear to my heart. It is in my sphere of influence. I spend a good deal of time up there with our Marines and consider it a longstanding commitment that, whatever I can do for them, I will continue to do.

I miss this committee dearly. I am across the hall currently in a markup. My heart is still with the committee, Mr. Chairman. If I could make it back, I would love to.

So, again, I would just like to say, we are here. I think you are hearing unanimity amongst us, which is kind of rare, especially this year. We support what you are trying to do. And I hope that the people behind you from the Pentagon hear very loudly that we would like to help you in your efforts.

And again, Cher, thank you for what you have done. I am glad you watch C–SPAN. You would think you would have better things to do with your life than watch boring old us. But thank you very, very much. And, again, I thank the witnesses for being here today.

Mr. WELDON. I thank the gentlelady for her statement and for her outstanding contribution to this institution and America.

Dr. Meaders, you did well on your first appearance before Congress. You wowed them, I guess is the word I would say. No negatives, all positives. And some questions, legitimate ones, raised by our good friend, Mr. Buyer, and others. We have the same concern, because we want to make sure that what we are doing, as you do, is in the end right and proper. But no one can question your patriotism and the service of you and your family to the country. You are an amazing group of people.

And with that, I would like to ask you, your wife, your son and his wife to stand up, along with Cher, so that we can all give you a special round of appreciation as you leave the witness table. Please all stand so we can recognize all of you.

With that, we will convene our second panel of distinguished witnesses. If you would all take your places at the table, and we will line up the name tags.

I have already introduced each of the members, so their statements have already been submitted for the record and have been accepted without objection.

We will go right down the line. We deeply appreciate you all being here but, more importantly, your service to the country.

Since I have already introduced you all and since you are not strangers to this community, we welcome you back.

General Speakes, we will let you lead off, and then with General Catto, and then Mr. Smith, and then McCoy. Again, I want to thank you all for your service to this country. We deeply appreciate it.

General Speakes.

STATEMENT OF MAJ. GEN. STEPHEN M. SPEAKES, DIRECTOR, FORCE DEVELOPMENT OFFICE, DEPUTY CHIEF OF STAFF G8, U.S. ARMY, ACCOMPANIED BY SGT. FIRST CLASS LUTZ; MAJ. GEN. WILLIAM D. CATTO, COMMANDING GEN., MARINE CORPS SYSTEMS COMMAND, U.S. MARINE CORPS; ROGER M. SMITH, DEPUTY ASSISTANT SECRETARY OF THE NAVY, (LITTORAL AND MINE WARFARE); AND BRIG. GEN. GARY T. MCCOY, DIRECTOR OF LOGISTICS READINESS, DEPUTY CHIEF OF STAFF/LOGISTICS, INSTALLATIONS AND MISSION SUPPORT, U.S. AIR FORCE

General SPEAKES. Thank you very much.

Mr. Chairman, Ranking Member Abercrombie, members of the subcommittee, thank you for the opportunity to appear in front of you today. And thank you, too, for your ceaseless support of the American soldier, the American soldier who is at war today representing our country.

The Army's number one concern is force protection. We will talk to you about it today. We will talk about our programs. We will talk to you frankly about what our challenges are and what we have in the road ahead to continue to improve the force protection for our soldiers.

One of the challenges raised today has been whether or not our programs are joint. We believe in the Army that we are a member of a joint team. We believe that the jointness that we are displaying daily is something that you should have visibility on. I would point, for example, to our work in tactical wheeled vehicles where we and the Marines are embarked upon a joint program that has great promise here for the future. I would point to our work with the joint IED defeat organization in which we are linked with the joint organization with the other services, particularly the Marine Corps and the Navy, as we work to provide better protection for our soldiers as we look at the greatest threat we are facing now, which is IEDs.

So those are but two examples where we see the need, and we understand your guidance that we be joint and that we work for common solutions as we look at a battleground that is increasingly challenging for our men and women who are deployed forward. Everywhere we see an enemy that is more complex, who puts more challenges in front of us and who ensures that the answers of today may be challenged tomorrow by the way the battlefield will appear then. So we continue our relentless approach to improve force protection to make everything we can for our soldiers better so that they may survive and operate with total confidence.

No one solution will fit all circumstances as we look at the spectrum of conflict from Afghanistan and Iraq, and then we see some of the challenges here at home as we undertake homeland defense.

We see a very sophisticated array of capabilities that we have got to provide soldiers.

The focus then is to provide commanders the tools so that they can make decisions about how they protect their soldiers given the operating environment that they see.

Our pro-force protection approach includes a reliance on several time-honored characteristics. First of all, good training. Good training is linked by what we call TTP: The techniques, tactics and procedures that enable us to be effective and successful on a conditioned response in a very, very adverse environment.

And then the other thing I mentioned earlier was the ability to give commanders equipping options so that they can define the best solution for the environment that they are operating in.

You have invited us here today to talk some specific issues, and we will do that. We will talk about body armor. We will talk about the Advanced Combat Helmet (ACH), and we will talk about our armoring efforts. And I want to go into specific detail on that.

I would like to begin by talking a little bit about integrated body armor. To do that, I thought rather than have me talk, what I would do is invite, with your permission, sir, is a combat veteran who works here in the National Capital Region with us, in our Program Soldier, Sergeant First Class Lutz. He is here to my left. He is a combat veteran with a year in Iraq. He was a part of the Second Infantry, a Striker brigade that spent a year in Iraq.

He, right now, is equipped as our soldiers in the combat zone are. And what I will do is start by talking about our body armor.

As you look at the suit of body armor that he has got on, what I want to do is detail for you some of the improvements that you have been directly responsible for that we now see in effect across the soldiers that are deployed.

First, as you look at his body armor, in his Outer Tactical Vest (OTV) front and back, you have what we call a Small Arms Protective Insert (SAPI) plate. That SAPI plate now has gone through a second iteration of change here in the last two years in which we have replaced all the SAPI plates that once started this land combat with a new set that is greatly enhanced in terms of its protection.

I would now like to draw your attention to his side and shoulders. As you look at the top of his shoulders, what you see is what we call the DAP, the Deltoid Axillary Protector. It is designed to protect an area that we saw on results of combat with something we needed to fix, which is our ability to protect the upper shoulder, and so now we have that across all of our soldiers.

The other thing you see underneath his arm is this side area, what we call the actual area. And that was another area where commanders told us that increasingly they were seeing evidence that we had side shots that were having an impact on our soldiers, and so what we are now in the process of doing is fielding a carrier with the Enhanced Small Arms Protective Insert (ESAPI) plate in it which affords our soldiers the protection from the side. We have 20,000 sets of that fielded. We are on track right now to close out that requirement by December of this year.

So that gives you a quick profile of the kind of improvements that we are seeing right now in the basic integrated body armor.

Now, the liability, obviously, is it is 31 pounds right now for a medium-weight soldier. That is a lot of poundage. The liability is that we don't have any other way to go. Right now, the kind of protection you see there is the very best that science and technology could afford us.

We continue to improve and work with everything we can to try to find new technologies and new opportunities. Just this spring, for example, our acquisition authority put out a new request for ideas, and we are in the process of evaluating those ideas. And that evaluation should be complete this summer. So we don't mean to imply that this evolution of body armor is something that we are satisfied with or that will be in effect a year or two years from now. We will improve, and we will continue to make soldiers safer.

The other thing I would like to do is address very quickly the issue of head gear. What I would like to do is start. Sergeant First Class Lutz is wearing the time honored helmet that we have worn in the Army since the 1980's, and it is known affectionately as the Kevlar helmet or the PASGT. Now, the PASGT has some liabilities that we wanted to deal with, and let me address them. As you take a look at what Sergeant First Class Lutz is wearing right now, you see, fairly typically, he has got his night vision equipment on him, and so the night vision equipment is something we have added over the course of the last 15 or 20 years, and it weighs a couple of pounds. So what it has is the impact of pulling the helmet down. And because of the way that helmet is suspended, which is the way that has essentially been in effect for the last 30 or 40 years essentially since Vietnam, his helmet is not really very secure or stable on his head. It is particularly noteworthy, for example, when he turns and has to engage in an urban environment when he is looking up or he is prone where he is trying to look out to his front—I would like Sergeant Lutz to demonstrate that for you now so you can see the limits of this helmet.

What you see is he doesn't have good vision up above him. And then the other thing you see is that, as he starts to move toward a more prone position, the extended area of the helmet to the front does not facilitate him.

Sergeant Lutz, no one can see you down there too well, I am afraid. The point there is that we have got severe limitations right now to the ability of that time-honored helmet—good though it was in the 1980's and 1990's—to do its job today in today's complicated battlefield.

So then what we did is we moved to a new helmet, and that is the ACH which is drawn from the Special Operations Command. In the late 1990's, the Special Operations Command set to work to find some improvements to this helmet that we now see as the Advanced Combat Helmet, which is what Sergeant Lutz is now donning. It has a very different suspension system in it, but it also has other improvements. It has improved ballistic protection on the actual outside shell of the helmet, and it also has a slightly different design. If you notice, it is about 8 percent less in terms of total area. That was specifically designed to give the soldier the additional ability to see to the flank and above him, and also to operate now where he has got body armor on with the collar protection, which is something that we had to deal with to give soldiers free-

dom to operate. So this helmet now is much more effective operating in today's complex battlefield. And the suspension system is a pad-based system which we believe is much more effective at resisting concussion, which is another area that we saw a problem.

So we began fielding this in 2002, and we have now been fielding this to our soldiers across the Army for the last several years. We now have 600,000 sets of this helmet out across the Army. So we are very grateful for the support that it took to make this overall ensemble work, and once again, it is something that we will continue to improve. But that gives you a quick profile of where we are.

The next thing I would like to highlight very quickly is what we have done with up-armored HMMWVs. Up-armored HMMWVs continue to be an area of great concern. They are the primary combat platform that soldiers are using in Iraq. We are in the process right now to continue to move to a totally level one solution. In other words, a factory-installed gold standard HMMWV is the coin of the realm that we are striving to attain across the Army, and we are on track right now to essentially meet all requirements from the combatant commander by spring of next year, which will put about 18,000 up-armored HMMWVs forward in the combat zone. That is a huge investment that you supported us making. We think it has material improvement in the overall safety of our soldiers, and that HMMWV is being improved daily. And the subject of what we are doing with that is obviously very closely held sensitive information that we are prepared to go into later on this afternoon in closed session.

The other area that I would like to address is something that has been drawn to our attention, which is what are we doing right now with the ability to render first aid to soldiers. And the specific issue is that we have discovered over the last several years that we have significant improvements in our ability to essentially stop blood from flowing by enhancing its clot-ability. We have two basic programs underway that I would like to highlight. And first I would like Sergeant Lutz to get up.

If you take a look at him right now, on his right front, he will point out to you the improved first aid kit that we are providing to all soldiers. In that improved first aid kit is some pretty sophisticated equipment. Among it, some improved equipment that enables you to better apply triage to soldiers. We are now in the business, for example, of allowing soldiers in the combat zone to actually apply tourniquets. We found that is very, very important as a life-saving step when we have traumatic injury. And the other thing we have is a bandage now that enhances clotting when we have a wound.

There are two kinds of bandages that are now approved by the Office of the Surgeon General. Both of them were Food and Drug Administration (FDA) certified. One is HemCon, and one is QuikClot. Over the course of the last year, effectively since September, we have been fielding those solutions to the field. So, at this point, what we have is a fielding solution that says we are trying to field one to every soldier forward in the combat zone, three to each combat lifesaver and then five to combat medics that are forward with our deployed forces.

At this point, based upon my conversations with our leading authorities in Iraq, we have approximately 65,000 individual bandages that are forwarded in the combat zone; we have another 16,000 that are actually in the combat zone being issued. That leaves us with about 99,000 that we still have to issue just to fix the forces in Iraq. We are also in the process right now of conducting detailed work with commanders in Kuwait and Afghanistan to ensure that we have the same basic flow provided to them as well.

So, at this point, although our programs are not where we want them to be—we don't have it to every soldier as we want—we understand the commitment. We are making the commitment right now that we will get it done. We will report to our leadership. General Schoomaker specifically has drawn this as a point of attention and concern for him. And obviously, ladies and gentlemen, we will report to you. We recognize the commitment, and we will make that improvement.

This is a very quick summary. I wanted to highlight to you the importance of this to us and our continuing commitment to engage in a dialogue. We thank you for your support. And I would also entreat you that your support, which you give repeatedly, for stable and continued support of soldiers in the area of force protection is absolutely vital to us. Thank you, sir, for your attention. We await your questions.

[The prepared statement of General Speakes can be found in the Appendix on page 65.]

Mr. WELDON. Thank you, General.

General, the floor is yours.

General CATTO. Thank you, Congressman.

Congressman and distinguished members of the subcommittee, it is my honor to return to you again today to update you on the Marine Corps's force protection efforts.

As I complete my final week as a Marine Corps senior acquisition officer, I want to personally thank you, Chairman Weldon, for your continued support of our warfighters since we began combat operations in Iraq three years ago. Without your leadership in how our Marines have been equipped and the strong support of this subcommittee to ensure that appropriate resources were available to the Marine Corps, I would not be able to provide you with the positive report that you will hear today in this testimony.

As I told you, in February, the Marine Corps' overarching strategy since the start of Operation Enduring Freedom and Operation Iraqi Freedom has been to ensure that 100 percent of the Marine Corps' force protection requirements are met with the best, most capable systems available in the world today, and we have succeeded.

The Marine Corps is committed to aggressively matching our equipment to changing threats. Our ability to rapidly modify our vehicle armored systems is a testimony to this commitment. For example, all of our HMMWVs that are not being replaced by the M1114 have now been armored since December of 2005 with the Marine Armor Kit, the best armor kit available.

We were also able to fulfill the U.S. Marine Corps, Central Command (MARCENT) requirement for armoring all of our Medium Tactical Vehicle Replacement (MTVRs) in May of this year, which

is five months ahead of schedule. And by the end of next month, July 2006, we will have 100 percent of our operational requirements for M1114s complete.

Providing personal ballistic armor protection to our warfighters is critical to ensuring their safety. Our individual protection vest system known as the Interceptor Body Armor System (IBA) is a modular system that includes the Outer Tactical Vest, the Small Arms Protective Inserts for the torso, back and sides. Working together, these systems provide the best possible levels of personal protection to known and anticipated threats. This is why 100 percent of our Marine ground forces have had this improved personal protection equipment as they rotate into theater.

In support of the Corps' critical requirement to focus on protecting our Marines from the effects of ballistic projectiles and fragmentation impacts and penetrations, we have replaced our 25-year-old Personal Armor System Ground Troops helmet, known as the Kevlar helmet, with the lightweight helmet. This helmet provides greater overall coverage of the skull, weighs less when compared to the standard Kevlar helmet. Coupled with the ease of determining correct fit of the suspension sling, the lightweight helmet provides protection capabilities against fragmentation threats and 9 millimeter bullets for our Marines in combat.

We are doing absolutely everything we can to ensure the safety of our Marines by providing them with the world's best and most effective force protection solutions. To my knowledge, there are simply no commercial products more capable than the equipment being issued to our Marines today. However, we continually conduct market research and commission studies to identify emerging solutions that offer greater levels of force protection. In instances where we find more robust capability, we pursue every action available to get our warfighters the best equipment as rapidly as possible. And with your continued support, we can ensure our Marines remain ready for the current fight and any future fights.

I would be happy to answer questions that either you or any other members may have.

[The prepared statement of General Catto can be found in the Appendix on page 72.]

Mr. WELDON. Thank you, General, for your testimony.

Is this your first appearance here now, Mr. Smith?

Mr. SMITH. It is the first appearance before the Tactical Air and Land Subcommittee.

Mr. WELDON. Great to have you.

Mr. Smith worked on this committee for years and is very well respected. Now he sits on the other side. But it is good to have you here. You are a great American. Thank you.

Mr. SMITH. Thank you, Mr. Chairman and distinguished members of the committee. Thank you for having me here today to represent the Navy and to discuss with you the individual protection equipment that we field through our sailors.

We have 11,000 Navy officers and sailors deployed into CENTCOM or Central Command area of operations today. About 8,000 of those are individual augmentees to ground units and Joint Staff requirements.

The Navy procures and fields protection equipment for these personnel through various procurement agencies in several different configurations for a number of different mission requirements, which are determined by the combatant commander.

The mission requirements include Navy expeditionary forces; as I discussed, individual augmentees assigned to ground forces; and for shipboard antiterrorism missions. Our Navy expeditionary forces include our Naval Construction Forces, or the Seabees, as well as Naval Coastal Warfare Forces. The individual protection equipment that is procured is fielded to these deploying units to meet the threat that the units will be operating in.

The Individual Protective Equipment (IPE) for our Naval Construction Forces starts with the Personnel Armor System Ground Troops, or PASGT, Kevlar composite helmet that was earlier discussed and demonstrated, and the standard Outer Tactical Vest that was also demonstrated, with either front, back and side, Small Arms Protective Insert plates or SAPI plates, or enhanced SAPI plates like the Army and the Marine Corps. We have also procured 9,533 of the ballistic liner padded helmet suspension systems for the PASGT helmet.

The helmet suspension systems are distributed to the deploying Seabees, to the Seabee Readiness Groups located at Port Hueneme, California, and Gulfport, Mississippi. Seabees are also issued these pads prior to their deployments to Operation Iraqi Freedom (OIF) or Operation Enduring Freedom (OEF).

The expeditionary forces that are assigned to the Marine Corps, they receive the type of equipment that the Marine Corps actually fields, and those would be forces such as dentists, doctors, our religious personnel that support the Marine expeditionary forces.

Our Naval Coastal Warfare and Visit Board Search and Seizure and Enhanced Maritime Intercept Operations Forces, those folks actually get IPE that is a specialized type of cut that is unique for their boarding missions. It provides additional mobility and also safety for waterborne operations. The forces wear a similar cut helmet to the Army combat—Army Advanced Combat Helmet. It has a webbed type sling system, and the vests are flotation vests that provide ballistic protection as well.

Our acquisition community and our fleet forces right now are currently evaluating the requirements for some additional types of padding systems in the helmet, and we are working with the fleet to work those issues out.

Our individual augmentees, as I said, there are 8,000 of those personnel. The Army actually trains and equips those forces before they deploy. If they are assigned to specific Army units, they go through Fort Jackson, South Carolina, and the Army's Program Executive Officer soldier or PEO soldier actually fields their gear to them. We have "in lieu of" augmentees that support Joint Force staffs and requirements, and they actually go through other Army training and doctrine command sites, and they are issued the same gear by the Army's PEO soldier.

In closing, I want to thank you again for the opportunity to testify, and tell you that the Navy procures and equips its forces with the best available IPE. It is tailored to our maritime and joint mission requirements and we continue to conduct market analysis as

required to make the resource sponsors in the fleet knowledgeable of the improvements in the equipment.

I stand ready for your questions.

[The prepared statement of Mr. Smith can be found in the Appendix on page 87.]

Mr. WELDON. Thank you very much.

General, the floor is yours.

General MCCOY. Chairman Weldon and distinguished members of the committee, I want to thank you for the opportunity to appear before you to present the status of Air Force protective equipment for our expeditionary airmen.

As the Director of Logistics Readiness, Deputy Chief of Staff For Logistics, Installations and Mission Support, it is my privilege to report on our force protection efforts, on our successes as well as our challenges for the future.

And on behalf of Secretary Wynne, General Moseley, and the men and women of the United States Air Force, thank you for your strong support.

The Air Force continues to provide significant support to the Global War on Terror, and we are extremely proud of our airmen's contribution to the war efforts. We currently have over 30,000 personnel deployed in support of the Global War on Terror. And leveraging the ability and the responsiveness inherent in our air and space expeditionary forces, our airmen have also been actively involved in humanitarian operations at home and around the globe and deployed in support of Operation Iraqi Freedom, Operation Enduring Freedom and other contingencies. And in fact, since 9/11, we have deployed over 370,000 airmen aggressively fighting the war on terror. We have flown over 422,000 combat sorties, moved 3.7 million passengers and close to 1.7 million short tons of cargo and delivered almost 500 million gallons of fuel. Additionally, the Air Mobility Command started committing C–17s in a direct delivery move in 2005 to help mitigate convoy operations over land. Cargo delivered by air increased by 200 percent from November of 2004 to November of 2005. And, moreover, the number of passengers delivered by air increased by 14 percent in this same time frame.

Now, this purposeful increase in cargo and personnel deliveries amounted to about 18,000 truck equivalents and over 17,000 bus equivalents of air lift. And this was between February of 2005 and January of 2006. Additionally, we are using C–130 aircraft flying an average of 140 sorties per day supporting cargo in movements in the CENTCOM area of responsibility (AOR).

And as you know, the Air Force has undertaken a greater number of various nontraditional roles and missions in Iraqi Freedom and in Enduring Freedom. Today there are nearly 5,000 airmen performing "in lieu of" missions with the United States Army, including convoy support, detainee operations, protective service details, military transition, and reconstruction teams who are rebuilding the infrastructure in Iraq and Afghanistan.

We have made enormous strides in obtaining more advanced protective gear and equipment for our airmen, specifically in the area of body armor, combat helmets, up-armored highly mobile multi-wheeled vehicles.

We take the safety and welfare of our airmen very, very seriously. Improved body armor and helmets are critical to protecting every airman. We are committed to providing the most advanced protective gear and equipment to ensure the safety of our number one resource, our airmen.

Thank you, again, for your strong support to the United States Air Force, and I am honored to have this opportunity to appear before you today. I offer my written comments for the record, and I look forward to our discussions on this important subject.

[The prepared statement of General McCoy can be found in the Appendix on page 95.]

Mr. WELDON. Thank you, General, for your testimony.

Thank you for your service, and thank each of you for being here today.

Let me start off by asking some questions of somebody who just got back from theater.

Sergeant Lutz, can you grab that microphone there for me? Where are you from, Sergeant?

Sergeant LUTZ. Sir, Simi Valley, California.

Mr. WELDON. Simi Valley, California. It is great to have you here. And thank you for your service. When were you first deployed to the theater?

Sergeant LUTZ. On November 13, 2003.

Mr. WELDON. When you were first deployed, did you have the old helmet with the old insert or the current helmet, the new one?

Sergeant LUTZ. The Advanced Combat Helmet, sir.

Mr. WELDON. So you never wore the old helmet?

Sergeant LUTZ. I wore the old helmet in training, but not to combat, sir.

Mr. WELDON. Can you tell us in your own opinion the difference between the two, since you wore both of them?

Sergeant LUTZ. The PASGT helmet limits your visibility. Fighting in combat in Iraq is a three-dimensional battlefield; it is not the standard Folder Gap in Germany where the enemy is directly in front of you. In Iraq, in a Stryker vehicle, you have to constantly look up, down, left and right. The old PASGT helmet limits your visibility to look up. The Advanced Combat Helmet, granted, it is a little bit less in, protection-wise, but it is a lot more comfortable. It allows the soldier to see more areas; it allows him to hear better than the old PASGT helmet. It allows him to differentiate where the shot is coming from, compared to the PASGT helmet, which limits it, and he is trying to seek where that enemy fire came from.

Mr. WELDON. Old helmet that you had that you wore in the past, did it have the current insert that we are discussing today, or was it an old insert, the type that we have referred to?

Sergeant LUTZ. It is the old sling system inserts, sir.

Mr. WELDON. So comparing the inserts, give us your own impression. I mean, as a soldier that was out there on the ground, tell us.

Sergeant LUTZ. I would honestly tell you, sir, it is like going from a—not to ping any manufacturer. It is like going from driving a Yugo to driving a Jaguar.

Mr. WELDON. That much of a difference?

Sergeant LUTZ. Oh, yes, sir. It is a lot more comfortable. It does not weigh anything on your head. It feels a lot more comfortable. The old PASGT after a while would start to ping in the middle of your forehead and give you headaches and what we used to call Kevlar hair. You would rub your hand through your hair after a while, and it would just hurt. The Advanced Combat Helmet does not do that.

Mr. WELDON. The liner is part of what we are focusing on today as well as the helmet, because we are ordering the new helmets. But it is a question of whether or not these transitions, these liners—which is what Operation Helmet has been doing. Did you feel more comfortable and safer in the new liner with the new helmet?

Sergeant LUTZ. Oh, yes, sir. I felt that it was a lot more comfortable. I actually know one soldier that was in Bravo Company 123 that was shot dead center in the middle of his forehead through his glasses when we were in Talafar, and he walked away just fine.

Mr. WELDON. Amazing.

Was there a problem with heat absorption? That has been one of the questions or comments raised about the insert. Was it a problem, when you wore the new insert, with heat absorption?

Sergeant LUTZ. We had no problem. Most of our dismounted patrols in Iraq are in Mosul because our vehicles were too big to go down the streets, and most of our patrols were dismounted. They were anywhere from two to three hours long.

Mr. WELDON. Did you have the problem with the helmet sliding down on your forehead with the old insert versus the new one? And if so, what was the difference between the two?

Sergeant LUTZ. The old PASGT helmet, regardless of what type of Nighe Observation Device (NOD) you have—and I had on my helmet, the PVS–14s, which are a little bit lighter. The PVS–7s would always pull down the front. If you had on Multiple Integrated Laser Engagement System (MILES) gear, which you had to have on the back, it would always push it forward, and it was just uncomfortable to wear.

Mr. WELDON. Now, you served in theater. Were you serving in an area where there were Marines also?

Sergeant LUTZ. No, sir. I was in Northern Iraq.

Mr. WELDON. Northern Iraq. So no Marines around. Have you seen the Marine helmet?

Sergeant LUTZ. Yes, sir. I have.

Mr. WELDON. Have you ever worn it?

Sergeant LUTZ. No, sir. I have not.

Mr. WELDON. Is it a style similar to what you wore when you talked about that old helmet that you had?

Sergeant LUTZ. I do believe it is the same sling-style system. Yes, sir.

Mr. WELDON. Okay. We appreciate your service to the country, and your anecdotal comments are very helpful, because, in the end, what we are about here is helping you have the best equipment that money can buy. And, again, we deeply appreciate your service to the country.

Sergeant LUTZ. Thank you, sir.

Mr. WELDON. General, I have got a—let us see. General Catto, I have got to get into this unclassified report on the comparison of the lightweight helmet sling suspension versus the BLSS. And according to the non-ballistic impact testing, the test results show that the lightweight helmet, the sling suspension, I guess, withstands 157 Gs, versus the model that I guess the doctor has put forward that withstands 79 Gs. That is a ratio of almost two to one better. Can you explain that, why you wouldn't want that for the soldier?

General CATTO. I think, Chairman Weldon, we need to define this thing a little bit differently.

There are three issues that we are concerned about with any combat helmet. The first is ballistics and fragmentation, and that is either a bullet or a piece of fragmentation that hits the helmet, and what kind of protection do you have. And I would tell you that I think both the Advanced Combat Helmet and the lightweight helmet in terms of just the helmet itself, they are made of the same kind of equipment, and they are basically, in terms of the material, the same. And the Marine Corps has no criticism of the Advanced Combat Helmet. In fact, we buy that helmet for our reconnaissance folks and for our people that are in the air, naval gunfire and liaison crews, because they are guys that do either direct operations that need that kind of capability that the sergeant talked about and that do parachute ops, so that when they fall or have the kind of blunt force trauma that they may have through parachute ops, that is a very good helmet. And I think that that needs to be clarified, that we do use the helmet and think that the ACH is a good helmet.

But you have got the ballistic piece that I talked about. Then you have the trauma caused by a crash, whether it is in a vehicle or being hit with an object other than a fragmentation, because the velocity that you get hit with is different. Or you have the third piece, blast, which is the result of concussion and percussion that Mr. Buyer talked about and the results of that. And so all of those things are threats to us.

Now, from a standpoint for the Marine Corps, the lightweight helmet was for us competed for in 2002. And at that time, the threat was primarily thought to be ballistic.

Now, if you look at the liner that we have in the lightweight helmet, it is an order magnitude better than the old Kevlar helmet in terms of the way it sits on—the fit, the fact that it does not move around, and it is a very solid helmet.

The issue that we have is interesting in that I have neurosurgeons that say it is important to maintain that distance so when you have a ballistic impact on the helmet the force is not transmitted to the cranium of the Marine or Corpsman wearing that helmet.

As we have talked through this, I have heard you say to me twice that you want facts, and then you have said you want to do the right and proper thing. And we agree with that. Mr. Abercrombie spoke to facts; Mr. Buyer talked about the medical research; Mr. Simmons said it has got to be right. Well, here is the issue in my mind. Dr. Meaders, who is a great American, talked about studies. I have never had access to the studies that he has.

If he would forward them to me, I promise you, we will give them full measure and look at them from a medical standpoint.

We asked the Aero, the Oregon Aero folks that provide the helmet inserts, to give us access to their studies that they say the pads are better. They have not provided them to us. So what we did in March of this year is, I went to the University of Virginia, the Center for Biometric Studies, and commissioned a study for them to give me rigorous data on, what are the results when this helmet is struck by a ballistic impact? And so what I am going to have within the next two months is rigorous data from a medical facility that tells me what the results on that, the helmet, are.

If they come back to me and they say that either the liner that we have in the lightweight helmet is inadequate and the padded system is better, the first thing I will do is recommend to the commandant that he move to the upgraded system, and I will come to you and ask for the funds to do it.

The issue, in my mind, is something that all of you in your wisdom talked to initially, is, what are the facts. I don't know. And we are trying to get to that issue, and when we have them, we will make the decision, because my responsibility is to ensure that there is no unintended consequences here and that we are doing the right things.

Mr. WELDON. General, I don't want to dominate the time here. I want to give my colleagues a chance. But I think you are talking about the impact, and we are talking about the protection of the head from rollovers and the other instances we are seeing, but I have an impact attenuation study on Marine Corps helmets dated 1 August 2003 from the Marine Corps team at Natick. And in the conclusion and recommendation, it ends up by saying the all-foam pad suspension system of the MICH is superior for impact protection.

General CATTO. Congressman, I would agree with you. It is superior for the crash protection. Remember, I talked a little bit about we use mission specific helmets for our recon folks and for our anglical folks. The issue I have is I have to tailor a helmet for the specific mission. And, to date, we think our most significant threat is the ballistic threat, not the crash that you might receive in an automobile.

Now, I have gone to the Combat Trauma Registry and asked for them to give me the data on, where are we getting these injuries? Are they for the most part from ballistic incidents, fragmentation, vehicle accidents?

When you say it is an IED issue where a Marine or soldier is injured, we don't have the data today that can tell us, was he hurt by the percussion? Was he hurt by the fact that he bounced around within that vehicle because of the concussion? Or was he hurt by a fragmentation? So, I mean, it is an issue of getting back to, I need more data and I need the specific facts before I make that decision.

Mr. WELDON. General, I thank you. Before I turn to the Army, I just would say that what is a little hard to understand is that we currently have, my understanding is, 6,000 Marines in theater that are using the pads provided by Operation Helmet because their choice on the ground in theater was that that helmet and

that insert provides a better level, in their opinion, of protection and comfort. That is hard for us. You have to understand that. We will put the money on the table, but it is hard for us to recommend—so I turn to the general and say, General, you made the decision now for the entire Army with this pad system, did you not?

General SPEAKES. Yes, sir.

Mr. WELDON. Now, you just heard what the general said here. And I don't want to pit the services against each other, but we are in a bind here. We want to give the best. So would you comment on why the Army made the decision to go—because you have similar types experiences with our soldiers.

General SPEAKES. Yes, sir. And as you mentioned, what we have is different decisions at different times. And I think that is a part of the overall factor of what decision was best at a particular time.

Reviewing the chronology, what we had over the course of the late 1990's was Special Operations Command working on the Modular Integrated Communications Helmet (MICH), and MICH was designed to do a couple things: first, improve protection to the shell itself, improve ballistic protection.

And then the other issue that I think is relevant and Dr. Meaders talked about is the concept of sports injury. And the concept of sports injury said that, in addition to the basic ballistic characteristic of the shell, the other issue that we were concerned with was the ability of the suspension system to transfer or shield the skull from the shock of a blow, of something coming external to the helmet. And so the testing that we did indicated that, if you take a look at a typical football injury, what you have is somewhere around 40 Gs worth of impact, and that the typical contact that the authorities that have done the testing for us indicate a typical contact on a football field is.

Then as you take a look at the number of Gs that will cause permanent damage or at least injury to the brain, what we are looking at is about 95 Gs. We believe right now that our helmet, the ACH, comes in and resists the typical impact to the tune of about 78 Gs. In other words, it is effective enough where it will present an adequate resistance to the typical modeled threat that we saw such that you won't have a brain injury.

And so that was the critical issue, and when we compared it to our PASGT, the old helmet that we had, the old PASGT was up somewhere around 150 Gs. In other words, transferring a lot of blunt force trauma to the brain.

So that was the basic characteristic that we used as we made the evaluation back when we decided to evaluate and then to adopt that helmet as the Army standard, which happened back in 2002. And then we began full fielding in 2002, 2003, 2004. So it was a combination then of the ballistic protection, and that is a significant improvement because we made substantial enhancements to the actual shell, and then the improved pad suspension system, which we believe does significant benefits in terms of the ability of that helmet system to resist impact and shield the brain from those impacts.

Those are the factors that we understand, sir.

Mr. WELDON. Gentlemen, the dilemma that we are in, wanting to provide you and our troops the best is, you understand we have two soldiers that perhaps were on the ground in the same theater, fighting the same enemy, with significantly different head protection. We are not the ones that can pick or choose, and we rely on you to do that. As a request, we have got 8,000 soldiers, 6,000 Marines using a system voluntarily of inserts provided by a private foundation. You have to understand the confusion we have here.

If that is the system that the military at the level of the sergeant over here wants, we want them to have it, and we will pay for them. And that is our frustration, General.

General CATTO. Mr. Chairman, and you know, we have talked to this now for three years, and I am in violent agreement with you. The Marine Corps would tell you that we have these questions, also, and that is why we commissioned the study in March. And if you remember, you go back in history, we talk about this very kind of issue with body armor where we had questions, commissioned the study, and then that was the evolution that brought us to the side SAPI plate.

What I want to bring everybody back to, there are three issues here: There is ballistic protection; there is crash protection; and then there is the protection from the results of a concussion or percussion. We don't know about the blast piece, the concussion, and we need research for that. But all I have heard for the ACH from everyone is that it is better against the crash, and it is more comfortable.

I have to have the rigorous data that tells me what is the best solution for blast, for concussion, you know, that piece, for crash and for ballistic protection. And that is why I say I need the help on the research to get to that.

Mr. WELDON. I understand, General. But you would not sit there and say that the Army is not looking at all three of those criteria for their helmet, I would think.

General CATTO. Absolutely not. I never have a bad word to say about the Army, because we use the same research facilities. We ask the same questions. We share the same engineers. When I get this study, I will share it with the PEO soldier and my Army counterparts. And I am not even sure General Speakes is aware of this. The Army has just started a study, I am told last month, to look at the same thing, and, again, we will share the results of this.

Mr. WELDON. When will your study be done?

General CATTO. Ours is supposed to be done, I believe, in September. We may have preliminary results before that.

Mr. WELDON. I think we need to get preliminary results before that only because, I mean, the Army is already using the helmet. They have obviously addressed all three areas that you just said were the important element for the Marine Corps. The Marines have voted with their mouths, telling Dr. Meaders, "Send us the helmets."

General CATTO. I would go back and say, I need the facts. I don't have the facts. I don't have the fact on what is happening in the Combat Trauma Registry for what has really happened to our guys. And I think that, remember, the Marine Corps has not said we cannot use those pads. And that is the only piece of gear that

we have said can be an optional piece for the commanders. Remember when we worked through Dragon Skin? So we have the same kind of issue.

Mr. WELDON. Well, let me say this to you, it will not be a question of money.

General CATTO. We know that.

Mr. WELDON. And you know that. I don't want anyone in America to think that we will not provide this equipment. And Dr. Meaders has stepped up and done something with his foundation. And, to be honest with you, General, there are some e-mails I want you to look at that came from some Marine Corps personnel that are absolutely outrageous.

General CATTO. I have seen that e-mail. And as you know, in every big organization and everyone that is an executive, things happen that you would be unhappy with. I did not like the tone of that e-mail, and that has been taken care of already.

Mr. WELDON. I appreciate that, and I know Dr. Meaders does as well. Look, he has no agenda here.

General CATTO. As I think he would tell you, because we didn't get a chance to talk earlier, I thanked Dr. Meaders in the anteroom for what he is doing. And this is not invented here or we are unhappy with this; we all want the same thing. But I reemphasize, I need to have the facts, and that is my responsibility, as you know. And I think you can help us with that.

Mr. WELDON. Well, again, we think the facts are there with the Army. But I would just say that we want you to do this as soon as possible. I mean, this is a top priority.

General CATTO. And we concur with that. That is why we started the study.

Mr. WELDON. The gentleman from New York is recognized.

Mr. ISRAEL. Thank you very much, Mr. Chairman. And thank you for the passion that you bring to this critical issue.

Mr. Chairman, I want to shift the focus from helmets that are designed to protect our forces from injury to the coagulants that could save them from bleeding to death after the injury.

General Speakes, I deeply appreciate your candor in acknowledging that there have been some difficulties in fielding the coagulants. The DOD has said that about 50 percent of fatalities are the result of blood loss, and arterial coagulants are literally life savers. The Army has had a policy that every service member in the theater would have at least one coagulant. This is an example, as you know, General, of one of two products that are used by the military.

This is one example. This is an example, General, of what happens when things go wrong. This is one of my daily newspapers on Long Island. Front page story, June 8: Blood Clot Bandages Frontline Shortage: Some troops calling home to ask for lifesaving dressings.

I would like to take you through a brief chronology because our time is limited, and then I have some questions. General, on June 1, one of my constituents, Doreen Kenney, whose son Jacob Fletcher was killed in Iraq, visited my office. And she reported that she was receiving e-mails from service members in the theater asking her to please send them arterial coagulants because they didn't

have any. That day my office contacted the Army and the Navy and asked about any known shortages. The response that date was that no one was aware of any shortages but that they would investigate. We remained in contact with the Department as they attempted some fact finding. One week later, this newspaper story appears.

We transmitted it on June 8 to the Army and to the Navy. Then the very next day, Friday, June 9, the Army signed a $3 million contract with one coagulant company that had been funded by Congress the prior December; Congress funded $3 million to contract for coagulants. One week after my office called, one day after we submitted this news story to them, the Army contracted for those coagulants. The same week, the Army began negotiating with another company to increase the arterial coagulants.

On Tuesday, June 13—and this is one of the things that I have a hard time understanding. Despite the fact that the Army signed the contract a few days before, on Tuesday, June 13, we received this e-mail from the Army, and I am quoting: Army has sent over 200,000 blood-clotting bandages to theater. This exceeds the requirements for one bandage per soldier.

So the Army is telling us on June 13 that all the requirements have been fulfilled, and yet the Army only days before finally consummated a contract that had been funded by the Congress the prior December. In fairness to the Army, the very same day somebody got back to us after sending that e-mail saying, well, upon further investigation, there may be some distribution problems.

Since we began this inquiry, the Army has in fact been responsive to us, and I appreciate that. We have been in contact with the Army on a daily basis. And we have been told by you today and by others in the Army that 117,000 units have been purchased and have been shipped to the theater; that the Army is doubling procurement of coagulant bandages from 10,000 a month to 20,000 a month starting this month; and that every service member will have at least one.

My initial question, General, is, despite the fact that you have recognized that this is a problem, what are we going to do to make sure that the problem does not occur again? We are ramping up production. We are ramping up distribution, but what is to stop another distribution problem in theater? What are we doing in terms of the roots of this problem? If you would answer that, and if I have time, I will have another question for you.

General SPEAKES. Sir, absolutely. You addressed I think very accurately the chronology of our internal investigation to see what was happening with this very important issue.

I think procedurally we have learned some important lessons. First of all, we had an early determination that we would make this what we call SBE or stay-behind equipment, so that what happened, when soldiers exchange roles, the stuff that is critical, that is going to remain in the theater, that is of limited supply, stays in theater. This wasn't on the order that we had put out at the Department directing that it be stay-behind equipment. This week, we made the correction. It is a part of a review that we are undertaking right now at the Department level to make sure we have a current list of the material that we are mandating stay in the com-

bat zone because it is in short supply. So that is step one, official recognition at the Department level that this is critical property that must remain in the combat zone.

The next issue, sir, that I think your constituents very accurately identified was, where we headed, we were not sure that it was actually in the hands of soldiers. In other words, it was out distributed in mass sets, but it was not out where soldiers actually needed. We are pretty confident that we have very good distribution in the medical command; in other words, the combat medic had it, but not all the combat lifesavers, who, as you know, are basic soldiers who just get additional training, or that the individual soldiers have it. This is now a chain of command focus. The chain of command is specifically focused on distribution and ensuring it is an element of precombat checks, just as you would check for the presence of a weapon or ammunition. So I think it is a part of our culture.

This, as you know, is new technology. It is a new capability. For years, I wore a first aid pack around me that meant nothing. Now we have got a critical lifesaving capability that we in the chain of command have got to be much more sensitive to. You have our attention, sir. We understand how important it is to soldiers, and we will get it fixed.

Mr. ISRAEL. General, I appreciate that. My time has elapsed. I am just going to put on the record two questions, and then I will follow up with you. One is, there was a report that as many as 30,000 packets essentially were stuck in a pile and may have even been thrown out because they exceeded the 6-month expiration date. Now, one of the things that I am very careful about at home in my medicine chest is opening it up to make sure that Tylenol hasn't exceeded the expiration date. How is it possible that 30,000 of these packages were just thrown out because someone didn't figure out that we have got to use these within 6 months? I am going to ask you to look into that; we don't have time to get a full answer, but I will contact you tomorrow to follow up.

And second, General, if the Chair will permit, you had said that you would be reporting to this committee on the progress that you were making in achieving the 5–3–1 goals. Can we expect you to report to the committee on a monthly basis, General?

General SPEAKES. Sir, we would be glad to report on a monthly basis.

Mr. ISRAEL. Thank you.

I appreciate it and will follow up.

I thank the Chair.

Mr. WELDON. I thank the distinguished gentleman for his excellent questions, and we will continue to pursue this. I now recognize the gentleman from Texas for five minutes.

Mr. CONAWAY. Thank you, Mr. Chairman.

General Catto, I appreciate your passion for fact-based decisionmaking. The study that is being done in Virginia, will it include the things that Chairman Buyer talked about in terms of his concern for the veterans' perspective?

General CATTO. We are looking primarily at the first increment of this for ballistic protection, because we already know what happens based on the anecdotal data that we have with the ACH in

terms of it being slightly better in terms of the crash protection. So I think you ask a very important question, though. We are going to need funding to get to this correctly, and we are going to want whatever kind of help we can get from Mr. Buyer and this committee to make sure that we have the right information so that we make the right choice.

Mr. CONAWAY. Is the padded system—I played football and wore both kinds of helmets. Will the study show for the ballistic hits the padded system transfer shocks through the neck and into the spine that might not otherwise be there?

General CATTO. That is one of the functions of this study. We are looking to find out, what are the results of that kind of trauma, and how is it transferred?

Mr. CONAWAY. So if it shows that the pad systems do not degrade the ballistic protection, you would be willing to switch to the other?

General CATTO. Absolutely.

Mr. CONAWAY. But based on facts and a study from——

General CATTO. Absolutely. And as we said, we don't have a preconceived position here. I just want to be sure that, before I make that decision or recommend that decision be made, that we have the right data to support it.

Mr. CONAWAY. General Speakes, does the Army have any kind of data like that, the ballistic characteristics of the pad system versus a sling system on ballistic hits?

General SPEAKES. Sir, let me take that for the record. We have studied material, but I don't know for sure that it addresses that specific issue.

Mr. WELDON. Will the gentleman yield on that point? And I will yield the gentleman extra time.

Mr. CONAWAY. Actually, let me yield back. That was my last question.

Mr. WELDON. General, the point I have to ask, then is, why would you then issue this helmet to your recon folks who are in a more hostile environment? Why would you do that if you are not satisfied that perhaps enough testing has been done.

General CATTO. Well, remember now, I said we issue our recon guys both helmets. They have the ACH for certain direct action missions or missions where they are doing parachute ops, where we are more concerned about the crash issues. And in those kinds of missions, they are not intending to be involved in firefights, they are intending to do the reconnaissance piece, collect intelligence, and then get out of the area. And those missions where we think that they may be involved in a firefight or the high probability, they are going to wear the lightweight helmet, which, by design, is significantly bigger, and we think slightly better in terms of the ballistic protection. So it is really mission specific.

Mr. WELDON. You are not saying they carry two helmets around.

General CATTO. We said they are issued two, we didn't say they carry two.

Mr. WELDON. The gentleman is finished?

Mr. CONAWAY. Yes, the Chairman is recognized.

Mr. BUYER. I am a little challenged, but I am going to stay for the testimony further.

What was your motivation to do this study in March?

General CATTO. Mr. Buyer, the issue for us—because we have had persistent questions about this, and our own guys asking for the helmet, we have gone out and said okay, we need to have the specific data. Because we have the same kind of questions you do——

Mr. BUYER. All right. Stop. Was there any motivation that you would then do a study on blast? Did you ever have a motivation to study blast?

General CATTO. We will look at blast in the next increment.

Mr. BUYER. All right. Let me rephrase the question. When you made a decision, you were motivated to do a study on ballistics. At that time did you have an equal motivation to study blasts?

General CATTO. We did not.

Mr. BUYER. All right.

General CATTO. Now, can I go back and say remember——

Mr. BUYER. No.

General CATTO. We don't have the combat trauma information to tell us where our injuries are coming from.

Mr. BUYER. Let me just take a moment, if I may, Mr. Chairman. This is going to be really important for us to get this out. We have done everything we can, right? You have got your side plates, right, protected from the side. You have got your front plates, but we do all this, you are going to protect the neck, the throat, the groin, we are going to protect all of this because we are so concerned about when the blast protects here. We have lost limbs, that is what I have to pay for in the VA, I have got to take care of this.

So we have taken care of the torso, we want to take care of the limbs, we are going to take care of the groin, but we are going to lose the brain. So we have created the four polytrauma centers in Richmond, in Palo Alto, Minneapolis and Tampa. Why? Because we take your soldiers, sergeant, and we do everything we can, not to focus on the extremities, it is to focus on brain. And we focus on the brain, because if we can't take care of the brain, what good is the rest?

So the reason I am taking this moment is I want you to leave here today with even greater motivation than you had to do that ballistic study because—where is the helmet you had? Grab your helmet, the one you would be wearing in theater. Now put the helmet on. This is the consequence I am dealing with at the polytrauma centers, okay.

So where I talk about where we are going to have to come up with this is, you have got the two helmets, you are trying to do it based on a mission, you are trying to be as responsive because you led those soldiers—I am not going to be the one, you have done this.

But we want to try to figure out how we can come up with this helmet. You Marine Corps, you debated the helmet forever. World War II, big debate, right? Should we strap it, unstrap it when we come off the ship? You guys have had the debates on the helmet for years. But we look at this one now and go okay, we understand you want as much flexible movement because you are in the urban warfare fight and you want to be able to take a round, but when the pressure comes in it cannot escape. I don't know if this foam

is the answer, I really don't, and I welcome the research. But where is that blast and force going to go? It has got to go somewhere, because right now it is being absorbed by the brain.

And it is remarkable, the expense to the American treasury right now to take care of our soldiers. We have even taken apart the cranium and stored it in the body to permit the brain to rest. We are doing incredible things to save human life.

So as we do all of this, we are not taking care of the brain. So I just want to take a moment here to just reinforce to you how important that is. And I agree with all of you, that you are doing everything you can to say that we cannot do every consequence, we can't, and I know that and I recognize that. But I want to work with you, I want to work with the Armed Services Committee, and I want to thank the chairman and I want to thank you for doing this. And I will help fund whatever we can, okay. Thank you.

Mr. WELDON. I thank the gentleman for his outstanding presentation.

The gentleman is recognized, Mr. Wu.

Mr. WU. Thank you, Mr. Chairman. I want to follow up on your pointing out that the Army and the Marine Corps had similar decisions to make. And it is my understanding that the Army and the Marine Corps had the same data about helmet safety, or very, very similar data, and one service went one way, and thus far, the other service has not chosen to go to what Marines in the field seem to be choosing for themselves.

We have two Major Generals before us. Didn't you all have the same data in front of you to make your decision?

General SPEAKES. Sir, I don't know that the specific data that we had in terms of how it was shared or what the common situational awareness of it was when we made the decision back in 2002, I will take that for the record.

General CATTO. Mr. Wu, when we looked at this helmet in 2002, we didn't have a respondent from industry come in with a padded solution.

Mr. WU. But that was 2002, this is 2006.

General CATTO. Yes, sir. And that is why we are looking at an upgrade.

Mr. WU. And you have 6 or 7,000 Marines that have selected a different helmet. And it is my understanding, or at least people have given me information to the effect that folks have tried to supply the Marine Corps with information and the Marine Corps has been resistant to that. And I would like to follow up with you offline about that.

General CATTO. Mr. Wu, I welcome that discussion. If that information has been provided to us, I am not aware of it, because if it was, I would act on it. As I said, I have asked for these studies from Oregon Aero, and I never received them. When Dr. Meaders said he had studies, I never——

Mr. WU. Well, we have a disputed fact here. And we will try to resolve that and we will work with you to do that. My understanding is that both Dr. Meaders and others have tried to supply you and the university with information and that there has been resistance to that.

I want to focus on a different aspect of this issue, which is that this Congress appropriated $2.2 million specifically for helmet padding in fiscal year 2005, and I just called the Oregon Guard today, and they used $200,000 of that money. Now, I really respect the job that Dr. Meaders and others have done in raising private money, but we should not be outfitting our soldiers through charitable foundations. We appropriated $2.2 million, $200,000 of that money has been spent by the Oregon Guard, and I want to know where the other $2 million are.

Now, the problem is, I mean, it is not just a matter of potential wastage of taxpayer money in that there is $2 million that I don't know where that has gone, but it is also the case that we have asked for $5 million this year to improve helmet liners, and I want to make sure that that money that we approve here is actually saving lives in the field.

Back in fiscal 2005, there was $2.2 million appropriated, there was $2.5 million in the House appropriations report, in conference, it was cut to $2.2 million. And I don't know how to account for that $2 million, and that is why I have stayed here that long, even though I am not on that committee because by my count, there is a couple million dollars missing. And for some, that may be just rounding error, but it is a significant amount of money, and it makes a real difference to troops in the field.

General CATTO. When you say "Guard," I assume you are addressing this to General Speakes?

Mr. WU. Well, it was appropriated to the Army Guard, but my understanding is, is that that money can be reprogrammed for any branch of the service.

General CATTO. I can't speak to that because I am not aware of that. If it was appropriated to the Army Guard, that was not a Marine Corps issue at the time, and we will have to talk offline.

Mr. WU. Well, what I need to point out to you is that money was appropriated for fiscal 2005, which ended September 30th of last year. The Oregon Guard told me that they were not offered the money from that appropriation until the last month or two. Now, somehow, that money was held up into the wrong fiscal year. Now that may seem like a small accounting issue to some, but that is 10 months or 12 months in the field with the wrong kind of helmet for others, and that is why I am raising this money issue and the specific appropriation issue today.

General SPEAKES. Sir, this is clearly an issue that the Army needs to take a look at. At this point, I don't know the specific status of the Oregon Guard and this money. What I can assure you is that at this point that we have bought 660,000 of the ACH, that we are continuing to buy 30,000 a month.

Mr. WU. Well, Major General, what I can tell you about the situation with the Oregon Guard, when they needed the helmets, they had to borrow them from California and Florida and elsewhere, and then when they were asked how much money can you use, they used $200,000 because they had borrowed a whole lot of helmets, and they said why don't you go to those other guard units in California and Florida and elsewhere in the northwest and see if they can use some money now because we had to borrow those helmets, but we don't have any more than $200,000.

So I am wondering why there was a significant delay, much more than 12 months, and where the missing $2 million is. Because we are looking at a $5 million appropriation for fiscal year 2007, and I want to make sure that that money goes to be used the way that it was intended to save soldiers lives.

General SPEAKES. Sir, I understand your concern. We will work it. And we owe you an answer, and I understand your commitment.

Mr. WU. And let me know if you have any problems reprogramming that money from one service to another or between the Guard and the regular Army or the Marine Corps, and we will work on that with you.

General SPEAKES. Sir, I appreciate it. We will do that.

Mr. WU. Thank you, General.

Mr. WELDON. I thank the gentleman for his questions.

General, I don't want to beat a horse to death, General Catto, but we have a copy up here of Oregon Arrow's test results. Has the Marine Corps asked them for their test results?

General CATTO. Sir, yes we have. I have not seen those results, we asked for them in September.

Mr. WELDON. Here they are. And they were comparative results. And what we are told here is that these are basically the same evaluations with the Marine Corps lightweight helmet, and the results are pretty much what we have heard the Army state to be the case.

You know, it is hard for us to be here and to understand all the dynamics in question here. What we do know is very simple. We do know we want the best protection. General, I will have to ask you this question, General Speakes, are all of our Guard and Reserve being retrofitted with the inserts that we are talking about here?

General SPEAKES. Sir, absolutely. Let me talk about it.

Because of the need for a form fit, what we are doing is using the Rapid Fielding Initiative, which, as you know, is a program we are using across the Army. And we have essentially started with Guard and Reserve deployers and worked our way across the deployment system, over 600,000 soldiers fielded to date. And we are using the RFI team to go to units and do unit set fielding, where we are getting a form fit for every soldier in unit, in most cases, before they go into combat, and then we are extending that program so we are going across the rest of the Army. So our commitment is to field all the way out to 900,000 so we get everybody taken care of at all composts.

Mr. WELDON. So that is underway right now?

General SPEAKES. Yes, sir, it is.

Mr. WELDON. General, you can make my day by simply saying while you are doing whatever studies you are doing, 6,000 of the Marines in theater—which I think are 20-something thousand—are using these inserts. I am not talking about the helmet test, I am talking about the inserts that are certified for use which your special ops recon people are using.

We will give you the money, you already have the money. Let's put Dr. Meaders out of business. Let's buy these inserts and make them available for the troops today. We are with you, Democrats, Republicans. You have got the money, buy them. Let the Marines

use them as they are doing, and then if there is a study that shows we should improve it another way, then fine.

To me, if it makes the soldiers who are using these inserts feel comfortable, then we ought to do that. You still do the study, but let's do that now. And we are not going to take this out of the Marine Corps budget, I will go to the wall, as I have for the Marines, and I think my colleagues would join with me.

General CATTO. Congressman, you have always been a great supporter, and your heart is pure and I love that. I will not go ahead and authorize a use of those pads unilaterally until I have the data that says what the right decision is.

Now having said that, I am not going to tell them they cannot use it, but the issue we have talked about here, it has been primarily comfort or a better protection against crash. I have got to have the data to make sure that we make the right decision before we, as a service, move one way or the other. And I am not trying to be a roadblock here.

Mr. WELDON. Well, respectfully, General, I would say the Army is looking at the same three areas that you are looking at, they are not just looking at ballistics, they are looking at crash, they are looking at everything. They have made a decision. And I understand that recon has a different function, and you have made that decision for them, but not for the others. But the decision, in my opinion, has already been made, it has been made on by the Marines on the ground. And this wasn't something forced on them, there was no marketing team over in the theater saying hey, buy this. This was a group of Americans who said we will raise the money to give you, if you want it, and 6,000 Marines now have that.

So I am going to tell you what I am going to do; we are either going to raise the money privately, and I am going to get behind Dr. Meaders and do it—and if we do that, it is going to embarrass the service, we shouldn't have to do that—or we are going to force it through an appropriation process that this Congress has the ability to do. And I don't mean to be blunt, but that is how strongly I feel about this based on what we have heard and seen today.

The gentleman and chairman is recognized.

Mr. BUYER. Thank you very much.

With regard to the study on the blast, is that something that you have available dollars that you could initiative, or you are going to have to wait on something from us?

General CATTO. We don't have the dollars available now, no.

Mr. BUYER. Okay, wow. All right. Well, then, we are going to have to put something together. And we are also going to look to you for your expertise, that when we do this study, that we have to have the right modelling. And it is not just a study, but helmet by itself. It is, as the soldier depicted, with everything we have put on them.

And we have such great capacities in our country to do wonderful and marvelous things, and to think that we don't have the ability to create a helmet that is multifaceted sort of would be amazing to me. I just want you to know that is how I feel.

And I am not going to sit here and supplant my judgment for you, because you gentlemen have commanded troops in battle, and

I am not going to question your sincerity because you know what it is like to lose a soldier or an airman or Marine, so I am not going to get into that with you. But I—man, I feel for them. I also was in the desert, and I know what that was like in the first Gulf War. And that was a miserable helmet—Sergeant, you are absolutely right to wear, piercing headaches. I actually got a care package, and in that care package were those air bubbles, you know, the plastic air bubbles. I cut out the air bubbles and put it in my helmet to rest on my head on air, and it immediately removed my headaches.

So soldiers are going to—and mere Marines are going to do whatever they can out there; they want to operate, but they also want to be able to exist and live. I think you guys know that.

All right. Thank you very much, Mr. Chairman.

Mr. WELDON. Thank you, Mr. Chairman. And to your friends from the Air Force and the Navy, we are not trying to slight you. And for the record, we are going to provide a whole series of questions on these issues. And without objection, I am going to submit the documentation and data provided by the companies that staff has inquired of regarding these inserts, and that all will be a part of the record, as well as additional questions that we would ask of each of our witnesses which we would ask you to respond.

We are going to have a classified brief following this, which I want to get underway because of the debate on the floor, so I will not take the hearing any longer. But again, just want to say that—and especially to my friends in the Marine Corps, General, this to me is so obvious that it is—I won't say ridiculous—and I understand you want the best protection, we want the best protection; but the fact is the Army has made a choice, they are using this, it is a certifiable system.

You are allowing the Marines to put this system in place in their helmets in theater—or 6000 of them already have it. To me it is a no brainer that we buy these inserts from whoever—I don't care what contract it is. I understand there are three contractors that make this, I don't care who buy it from, none of them are from my area of the country, none of them I even know whether or not they are, I couldn't even name them except Oregon Aero, but it is a question where this has been brought to our attention. And if it was just somebody coming in saying this, but when you have 6,000 Marines and 2,000 soldiers, and all other soldiers using it in theater, it just defies logic for us not to know why this is not being done. And to have to go out and continue to beg and borrow and raise money from the public is not the answer, it is not what the American people want to hear.

Again, I want to thank all of you, and especially our civilians who have come in to testify, who have reached out in a very positive way as citizens for your effort, Dr. Meaders and family. Cher, thank you for being here. And Cher, you have impressed me today not because you impress me as a musician and as an artist, but you sat through a 2–1/2-hour Congressional hearing, and that in itself deserves a round of applause. So thank you for being here with us today. This hearing is adjourned.

[Whereupon, at 5:38 p.m., the subcommittee was adjourned.]

APPENDIX

JUNE 15, 2006

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

JUNE 15, 2006

HOUSE ARMED SERVICES SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES
CURT WELDON, PENNSYLVANIA
CHAIRMAN

PRESS RELEASE

For Immediate Release:
June 15, 2006

Contact: Josh Holly (HASC), 202-225-2539
Angela Sowa (Weldon), 202-225-2011

Opening Statement of Chairman Curt Weldon

Hearing on Combat Helmets, Body and Vehicle Armor in Operation Iraqi Freedom and Operation Enduring Freedom

WASHINGTON, D.C. – This afternoon the Tactical Air and Land Forces Subcommittee meets in open session to continue our ongoing review of Operation Iraqi Freedom and Operation Enduring Freedom force protection issues. We will receive testimony from two distinguished panels of witnesses.

This marks the third hearing this subcommittee has held in the past five months regarding force protection initiatives. The testimony we receive today will provide the status of combat helmets, and body and vehicle armor in Iraq and Afghanistan. Force protection has always been a top priority to this committee and will continue to be a top priority as long as our military is deployed in harm's way. Chairman Hunter and Ranking Member Skelton have provided outstanding leadership and support on this issue and we thank them for that leadership and support.

We are finally turning the corner with respect to meeting the body and vehicle armor requirements in Iraq and Afghanistan. It has been a hard fought effort and there are still many areas for improvements in terms of reforming the acquisition system and maintaining a sense of urgency, but overall we have come a long way. As long as our personnel are threatened we must do everything we can to provide them with the best protection that is available.

Regarding body armor, all military personnel serving in Iraq have been issued, at a minimum, the body armor with enhanced armor plates to meet the threat. The Army and Marine Corps continue to direct their efforts toward supplementing body armor with side torso armor. These side torso armor requirements must be fulfilled as expeditiously as possible. The committee understands that the Army is in the process of qualifying additional sources for side torso armor in order to meet the requirements sooner. We expect to hear more about this strategy today. We understand the services face a difficult task in balancing the need to protect soldiers and Marines while at the same time not adding so much weight as to inhibit their mobility and effectiveness. Just as adding armor to vehicles has a down-side by creating roll-over potential, adding body armor can reduce personal mobility and increase the danger to the individual.

- more -

Regarding vehicle armor, almost 100 percent of the vehicles in theater have factory produced armor and no vehicle leaves a secure area without armor. The industrial base for vehicle armor continues to expand. We expect to hear from our service witnesses regarding the status of transitioning from existing armored vehicles to those with even higher levels of protection.

Despite recent press reports regarding the danger caused by roll-over potential, I am confident that the additional vehicle armor has saved many lives and continues to help protect military personnel from deadly IED attacks. Driver training and roll over mitigation procedures need to be a priority. We cannot neglect safety. But I am confident that personnel would choose armor over reducing roll-over potential by reducing vehicle armor. We expect to learn more about what's being done to address these concerns.

A new issue before the subcommittee, but one we have been investigating for several months has to do with combat helmets. We understand that there are primarily three helmets in use by the services, with either padded or sling suspension systems. We also understand that the helmet shells used by different services, while of slightly different sizes and weights, provide similar ballistic protection. However, while available test data is limited, results indicate significant differences in protecting against non-ballistic impact or blast protection, depending on whether the helmets use padded or sling suspension systems, with the padded suspension system providing approximately twice the protection against blasts.

Apparently we have thousands of our military personnel who believe the helmet they are being issued does not provide them satisfactory protection. Are they misinformed or is there substance to their concerns? The Medical Officer of the Marine Corps in a memo in April of last year concurred in the official position of the Marine Corps not authorizing the padded suspension system for the Marine Corps helmet -- He noted that, "comfort, fit, and performance when exposed to cold temperatures and moisture make the (padded) system unsuitable for operational use."

This is why after examining this we have brought the helmet issue before a formal session of the subcommittee -- because of unresolved differences on the issue. When we asked the Marine Corps why some Marines were expressing dissatisfaction with their helmets, the official position was that the Marine Corps helmet provided the required protection. They also expressed their concerns that there was an inappropriate relationship between Operation Helmet and the primary provider of the padded system for combat helmets. In fact a senior Marine Corps official accused Operation Helmet of "abetting war profiteering." This same official indicates that the padded system, being requested by Marines in Iraq for their helmet, "does not work. It reduces ballistic protection of the system and does not address the injuries that are occurring most frequently in theater. The Light Weight Helmet (the Marine Corps helmet) is superior to any other system available." In addition, with all of the trips that our Members have made to Iraq, we have had no negative feedback regarding helmets from our military personnel. However, with a reported 8,000 warfighters, currently 40-50 per day, now having expressed a need for a different helmet suspension kit than they have been issued, it is time to get definitive answers.

How can so many warfighters be wrong? The padded system being requested is used by the Army and Special Operations Command, or SOCOM. The Marine Corps' own testing indicates that their helmet provides about half the blast impact protection of the Army-SOCOM helmet. The Marine Corps says its helmet meets the Marine Corps requirement, but if it only provides half the blast impact protection of the Army-SOCOM helmet, we need to understand why this is acceptable to Marine Corps leadership. And why it insists on using the sling suspension system.

- more -

It is also interesting to note that while the Marine Corps insists on using the sling suspension solution, the Navy Seabees, also a part of the Department of the Navy, after examining the options available, also selected the Army-SOCOM padded suspension kit for their helmet.

There are also issues regarding Army management of its helmet program. We understand that the Army used the same padded suspension system for roughly the first 500,000 production versions of its new helmet and then changed its testing criteria and now uses three different manufacturers. We want to know whether these differing padded suspension systems differ in quality.

We expect the service witnesses to help us understand the rationale for using different helmets and different suspension systems and the procedures used to properly test these systems against ballistic and non-ballistic impacts such as blunt trauma. We also need to know what the medical data shows regarding the kinds of head injuries being experienced in theater.

The final issue we want to address relates to recent media reports quoting service personnel saying that they do not have adequate medical supplies, specifically specialized bandages that are used as blood clotting accelerants. The services claim that they have adequate supplies and that no unit has indicated an inability to get the required bandages. We have asked our witnesses to be prepared to answer questions on this subject. My only comment for now on this is that, here again, upon examination we find individual service solutions to problems, with the Army selecting its solution and the Marine Corps using a different blood clotting accelerant solution. Where is the jointness and coordination we hear so much about?

As the threat to our military personnel continues to evolve, force protection requirements must continue to change accordingly. We as a committee need to be reassured that all force protection programs are being accomplished expeditiously, the Services are communicating with one another, and that every effort is being considered to meet new force protection requirements. Every day, we must be able to confidently say that we are doing everything possible to provide our warfighters the protection they need and deserve.

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TACTICAL AIR AND LAND
SUBCOMMITTEE

STATEMENT OF

DR. BOB MEADERS, MD
CAPTAIN, MEDICAL CORPS, U.S.NAVY (RETIRED)
OPERATION-HELMET.ORG

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES

CONCERNING

THE USE OF COMBAT HELMETS, VEHICLE ARMOR, AND BODY ARMOR BY GROUND FORCES IN OIF AND OEF

ON

JUNE 15, 2006

NOT FOR PUBLICATION
UNTIL RELEASED BY
HOUSE ARMED SERVICES COMMITTEE
TACTICAL AIR AND LAND SUBCOMMITTEE

Operation Helmet is a grassroots community-based 501-c-3 charity that supplies helmet upgrades to troops in or headed for Iraq and Afghanistan. The request is made by the Soldier, Sailor, Airman, Marine, Guardsman, Reservist or their family. It was started when our grandson Justin, then a LCPL , USMC, was advised by a GySgt just back from Iraq to get the BLSS upgrade for his PASGT, as it might save his life in a blast environment. Justin called me and asked me to check it out.

At the onset, I researched the medical and scientific literature, spoke with Navy blast research folks, USAARL, blast researchers in France, de-mining companies in Scandanavia, Germany, and a few others to see if this was a valid concern and remedy. I was convinced it was.

We then looked to the literature/releases from Natick Soldier System Center and their studies on the benefits of shock-absorbing pads versus nylon suspension systems (circa 1934) showed a marked improvement in attenuation of impact g-forces and thereby deriving significant decrease in BABT (behind armor blunt trauma) in the MICH and PASGT helmets. I checked with the Marines, and was told the BLSS kit by Oregon Aero was not funded but was the only authorized retrofit for the PASGT. I understood the OA pad system had been used in the original MICH and early ACH helmets. Accordingly, we sent Justin kits for his twelve-man team. They installed them, loved them but wouldn't keep them unless the Company of 100 could all get them. That was the start. A goal of 100 kits.

As word spread throughout the Fallujah area, more and more units asked for help upgrading their PASGT helmets. Marines emailed us with complaints that their PASGT actually interfered with their combat effectiveness. The helmet was unstable and would pitch forward over their eyes when they fell into the prone firing position, wore NVG's, or in the case of medics, bent over to treat wounded comrades. The leather headbands quickly became brittle,

cracked, and caused sores on the forehead. The nylon strap/shoestring suspension would 'wear' on any protuberance of the skull and cause sores.

These problems were resolved by removing the 'old' nylon strap suspension and placing a series of highly engineered shock-absorbing, sweat-wicking pads to line the helmet interior. The pads could be adjusted both for fit and air flow.

The introduction of IED's, land mines, and RPG's against vehicles and troops had introduced blast effect with resultant head injury and brain damage as a principal wounding factor. Evidence and fist-hand feedback suggest the unmodified PASGT would rock easily when struck by the blast effect and the slam into the skull, the Kevlar helmet being harder won every time. By eliminating the airspace that separated the nylon suspension system from the helmet shell, contact between the helmet and skull was stopped and the pads absorbed and spread out the energy forces transmitted by the blast wave, fragments carried thereon, and being tumbled along the ground or inside vehicles.

Marine families heard from their loved ones as well. Together, we all worked to provide more and more helmet upgrades to the troops. By June, 2004 we had shipped over 1,000 upgrades to the Marines in Iraq.

Television, newspaper and radio stations in Houston carried stories about our effort, and a lawyer volunteered to set us up as a corporation and help with the paperwork to become a 501-c-3 public charity so all deductions would be tax deductible. The public became more involved, donations arriving daily by mail from individuals, companies, as well as veterans and social organizations.

Air Force Special Ops helicopter crews asked for help as well. While flying, they had the best helmet in the world, but when they hit the deck, intentional or otherwise, they had to resort

to the unstable, uncomfortable, and operationally inferior PASGT. We complied; the Air Force Association kicked in an initial $1,000.00 to help propel the upgrade efforts. Army troops still wearing the PASGT asked for the same upgrade and we did so until we received a call from the Chief of Staff's office saying we could stand down. The Army purchased hundreds of thousands of new ACH (advanced combat helmets) that incorporated shock-absorbing pads from the factory. However, we still receive requests from Guard and Reserve units that are still using the PASGT helmet.

As word spread from the front and through the military 'home' network, families started holding fund-raising activities, Marine and Air Force organizations pitched in, and America opened its heart to the troops. National radio coverage was initially provided by Glenn Beck and Al Franken. Opposite ends of the political spectrum met on the grounds of helping the troops regardless of feelings for or against the war.

When the new Marine LW helmet was introduced, we thought we would be able to suspend operations. Emails from Iraq quickly made us reconsider. The new helmet, while more stable than the PASGT because it incorporates a four-point retention system, still had a nylon internal suspension (a 'skull-cap'/strap) that rested on the skull with air between the head and the helmet. Information from DVIBC (Defense and Veterans Brain Injury Center) continued to relate that injuries/deaths from IED's/blast effect continued to be the major cause of wounding and death of Coalition troops.

When we asked Marine Corps Systems Command if the BLSS kit was authorized for the new LW, we were told it 'wasn't needed' and the new helmet provided 'enough' protection for Marines. There was no outright prohibition. Being skeptical old folks, we then asked OA to fund for us a study at an independent lab to show the test results of substituting their upgrade kit in the

Marine LW helmet. The results were as they had been for the PASGT. Unmodified helmets allowed significant pass-through of impact g-force compared to ones retrofitted with the pad system. (Attachment 1) We continue to supply Marine 'outside the wire' troops with the upgrade kit from Oregon Aero to replace the sling suspension system of the LW and receive high praise for the added comfort and stability as well as narratives of blast survival that the trooper felt would have been impossible without the upgrade.

Air Force and Seabee troops doing convoy/security also ask for the upgrade, and as they are still afflicted with the PASGT, so we send them the upgrade kit. Navy Seabees, newly tasked with convoy/security duty also requested help and we complied. Shortly after we began supplying the Navy, they agreed to outfit the Seabees with the upgrade and purchased some 8,000 BLSS kits for their use. We are once again getting requests from Seabees as well as Coastal Patrol Boat sailors asking for helmet upgrades.

The Air Force has announced they plan on providing the ACH for their troops performing duty 'previously performed by Army'. We have no current information as to the availability of the new helmet up ground units of the Air Force. Skydex, a new entry in the field of helmet upgrades, show good lab test results (Attachment 2) with their technology of hemispherical plastic 'bubble' shock-absorbing pads, but they've not been tested by any military unit we know of. We've sent about 1000 of their kits to Air Force ground pounders doing primarily maintenance and want to do their job in more comfort with little chance of indirect fire/IED's threatening them.

With more media coverage: Lou Dobbs on CNN, WLW Cincinnati AM/XM coverage, stories picked up by newspapers across America, and more donations have come in. Cher, the famous actress, director, singer, producer and all-around grand lady joined our effort and has

been featured on CSPAN, resulting in yet more publicity. We receive from 5 to 50 letters a day from all across America. Some contain a single dollar wrapped in paper, some a check for everything from $5 to $25,000.00. We spend virtually every dime on the purchase and shipping of the helmet upgrades. There are no salaries paid, no trip expenses deducted, and the only 'predictable' expenses are bank charges and postage/shipping. As of 6/8/06, Operation Helmet has sent 7, 926 helmet upgrades. Of these, approximately 300 have gone to the Army, 800 to the Navy, 1,000 to the Air Force and the remainder to the Marines.

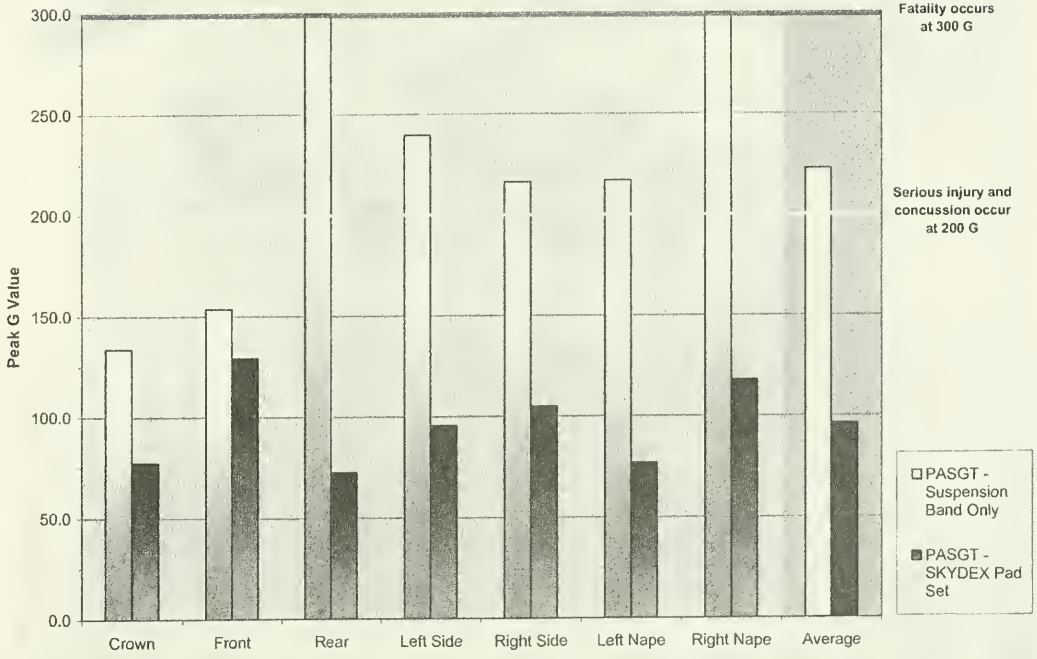
In closing Mr. Chairman, I want to emphasize Operation Helmet has been and remains a grassroots labor of love by the American public to provide meaningful support to our troops. Feedback from the troops is universally positive regarding the helmet upgrade pad system and we shall therefore press onward in providing the kits until their mission is complete.

Impact tests were conducted to ANSI Z90.1-92@10ft./sec. specifications by an independent laboratory.

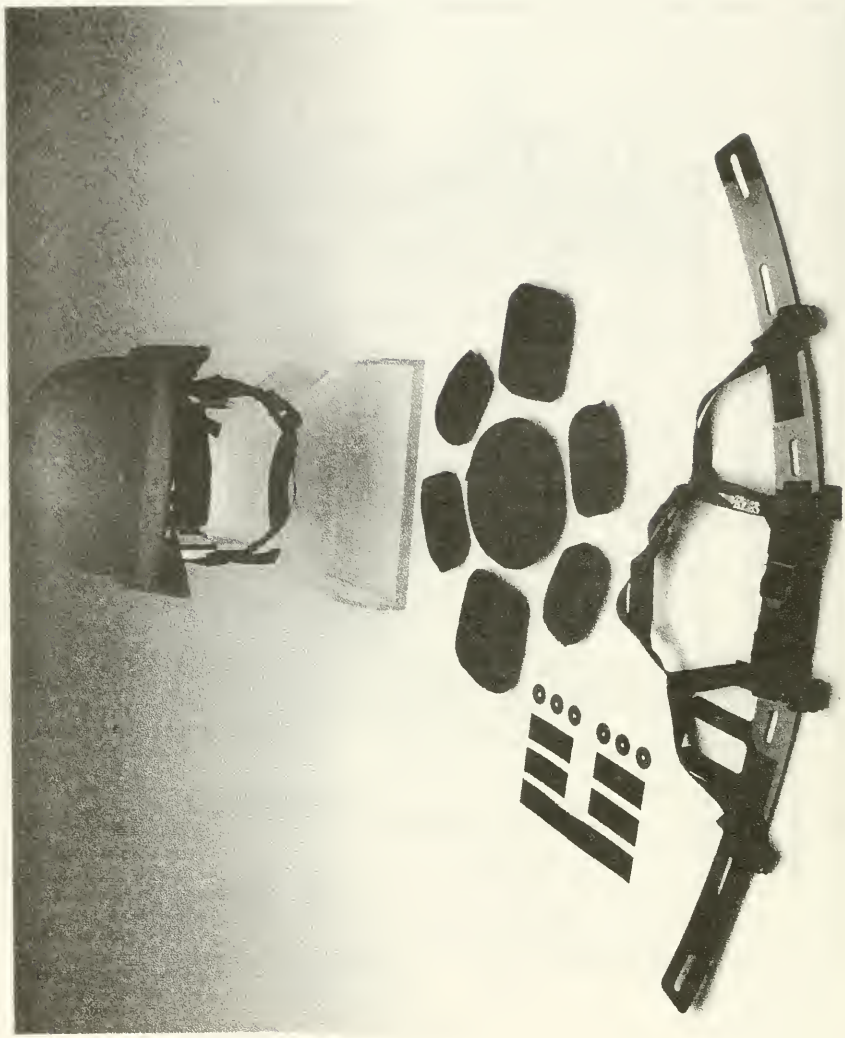
Chart provided by Oregon-Aero

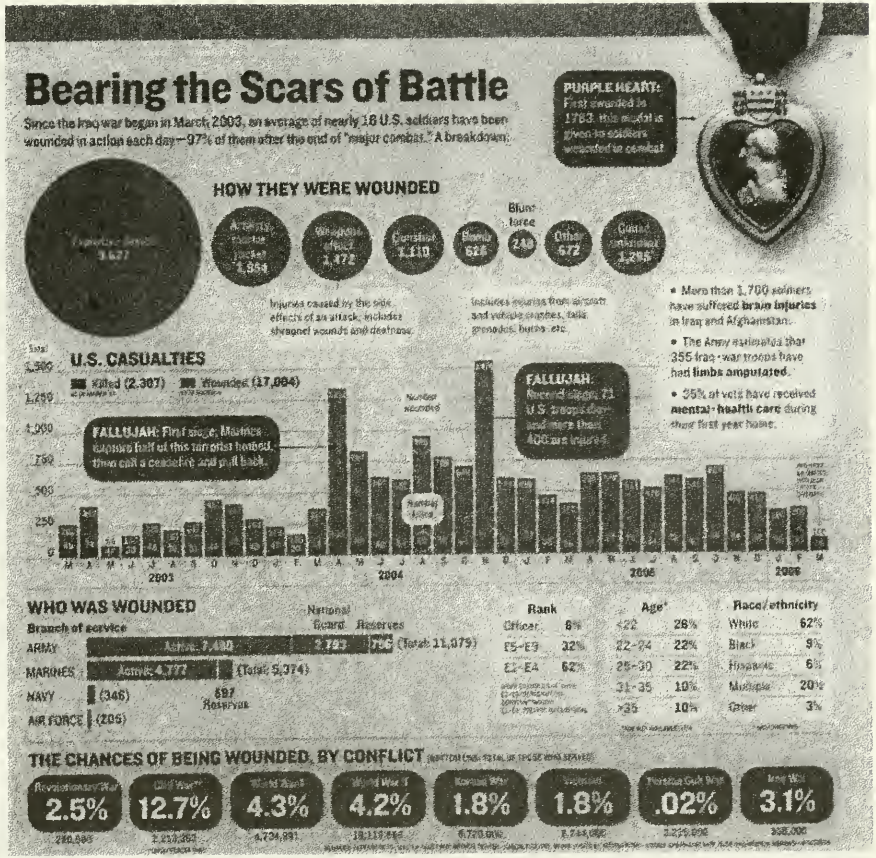
Peak G Impact Data
PASGT Suspension Band versus *SKYDEX Pad Sets inside a PASGT Helmet*

(Tested to ACH Performance Specification, Non-Ballistic Impact Protection requirement, section 3.12)



Data at each impact location represents the average of two hits per location at 10 ft/sec.




Bearing the Scars of Battle
Since the Iraq war began in March 2003, an average of nearly 18 U.S. soldiers have been wounded in action each day—97% of them after the end of "major combat." A breakdown:
PURPLE HEART: First awarded in 1783, this medal is given to soldiers wounded in combat
HOW THEY WERE WOUNDED
Blunt force
Injuries caused by the side effects of an attack, includes shrapnel wounds and deafness.
Includes injuries from aircraft and vehicle crashes, falls, grenades, burns, etc.
• More than 1,700 soldiers have suffered brain injuries in Iraq and Afghanistan.
• The Army estimates that 355 Iraq-war troops have had limbs amputated.
• 35% of vets have received mental-health care during their first year home.
U.S. CASUALTIES
Killed (2,307)
Wounded (17,004)
FALLUJAH: First siege, Marines capture half of this tar-pilot hotbed, then call a ceasefire and pull back.
FALLUJAH: Second siege, 71 U.S. troops dead and more than 400 are injured.
2003
2004
2005
2006
WHO WAS WOUNDED
Branch of service
National Guard
Reserves
ARMY
Active: 7,480
2,793
796
(Total: 11,079)
MARINES
Active: 4,777
(Total: 5,374)
NAVY
(346)
697 Reserves
AIR FORCE
(205)
Rank
Officer 6%
E5–E9 32%
E1–E4 62%
Age*
<22 28%
22–24 22%
25–30 22%
31–35 10%
>35 10%
Race/ethnicity
White 62%
Black 9%
Hispanic 6%
Multiple 20%
Other 3%
THE CHANCES OF BEING WOUNDED, BY CONFLICT
2.5%
12.7%
4.3%
4.2%
1.8%
1.8%
.02%
3.1%

U.S. MARINES

STATEMENT BY

MAJOR GENERAL STEPHEN M. SPEAKES
DIRECTOR, FORCE DEVELOPMENT
OFFICE, DEPUTY CHIEF OF STAFF, G8

BEFORE THE

TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

HOUSE ARMED SERVICES COMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

ON ARMY FORCE PROTECTION PROGRAMS

SECOND SESSION, 109TH CONGRESS

JUNE 15th , 2006

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
COMMITTEE ON ARMED SERVICES

Chairman Weldon, Ranking Member Abercrombie, and distinguished members of the Committee, on behalf of the Army, thank you for the opportunity to appear before you today and to update you on how the Army is protecting Soldiers. Thank you, too, for your ceaseless support of the Soldier, in terms of oversight and resources; it has made a vast difference in the protection of the Soldier. However, even considering our collective efforts, we can never lose sight of the fact that the death of even one service member reflects an immeasurable loss to the Nation in terms of that life's potential; and we can never stop or slow our efforts to better protect our Soldiers.

Before I address specific material solutions with which you have expressed interest, let me review the Army's overarching framework for force protection.
The Army's number one concern is the protection of the Soldier. The ever-evolving enemy continues to develop increasingly sophisticated, more complex systems to attack our forces. But force protection is about more than equipment; it is a total package, and the Army is dedicated to providing that total package. It includes training in a realistic environment and with required equipment to train at home stations. The first time Soldiers use equipment should not be when they deploy to a combat zone. It includes understanding techniques, tactics and procedures – the TTPs – that are absolutely essential to engaging the enemy, accomplishing the mission, and surviving the battlefield. TTPs enable Soldiers to respond in a moment of hazard with an absolute, immediate response that will save a Soldier's life or that of a buddy or comrade.

And it includes providing commanders' with a menu of equipping options with which to conduct operations and protect their teams. The equipment we have in the field today is the best the Nation has to offer. However, we are working tirelessly to develop and integrate both incremental improvements as well as totally new items . This continuous evolution of protection is absolutely essential, and we can never say that a solution we have today is optimal. It represents our best possible at the moment, and it will be continuously improved as we develop the capability and the means to do so.

Interceptor Body Armor (IBA) remains a centerpiece program for the Army, one that saves lives everyday. IBA is a modular design that provides protection against fragmentation and small arms ammunition and can be tailored to meet mission requirements. The standard system consists of an Outer Tactical Vest (OTV) and a set of ballistic inserts, oftentimes referred to as Small Arms Protective Inserts (SAPI).

Additional protection is provided through the Deltoid Axillary Protector (DAP) which provides protection to the shoulder and armpit regions of the body and Ballistic Side Plates. Total weight of all body armor components and accessories in size medium is 31 lbs.

A brief chronology of the evolution of Interceptor Body Armor:

- In 1999, the Army started fielding the Outer Tactical Vest (OTV) with Small Arms Protective Inserts (SAPI) to Soldiers deployed in Bosnia.
- April 2004 Theater reported 100 percent fill of 201,000 sets of IBA (OTV & SAPI) for every U.S. Army Soldier and Department of Defense (DoD) Civilian in Theater.
- April 2004, Theater requested Deltoid Axillary Protector (DAP) which provides protection to the shoulder and armpit regions of the body. Fielding began in June 2004 and the requirement of 172,860 DAPs was met in Jan 05.
- January 2005, Theater requested Enhanced Small Arms Protective Insert (ESAPI) which provides increased protection for Soldiers. Requirement established at 201,000 sets.
- September 2005, Theater requested Ballistic Side Plates. Expected completion of the 201,000 requirement is December 2006.
- January 2006, Theater ESAPI requirement met.
- Expected completion of ballistic side plate requirement is December 2006.

The following chart shows the Theater and Army wide requirements for the IBA ensemble to include the Theater on hand quantity.

IBA Item (Numbers in thousands)	Total Army Requirement	Theater Requirement	O/H in Theater	Total # Funded
OTV	966,000	201,000	201,000	966,000
ESAPI	966,000	201,000	206,000	446,000
DAP	966,000	201,000	224,000	230,000
Side Plates	966,000	201,000	21,000	230,000

In April 2004, Central Command reported that it had enough Body Armor for every Soldier and DoD Civilian deployed in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF in Afghanistan). To date, the Army has fielded over 863,000 sets of body armor worldwide. Our IBA is the best military body armor in the world. As you have heard, the Army has continued to improve its IBA ensemble, consistent with Theater requests and scientific developments. In this regard we have

fielded over 343,000 sets of Enhanced Small Arms Protective Inserts (ESAPI), as well as 224,000 sets of Deltoid Axillary Protection (DAP), which protects the shoulder and sides of the body. The most recent improvement to the body armor ensemble is the Enhanced Side Ballistic Inserts oftentimes referred to as Side Armor Plate. In response to a request from the Theater commanders, the Army designed, tested, and placed on contract a side armor plate and carrier. The Army has fielded over 21,500 Enhanced Side Ballistic Inserts to Theater. Production will ramp up from 25,000 in May 2006 to a steady state of 30,000 this month. The Army will complete Theater requirement 201,000 by Dec 2006. The Army continually monitors the state of industry. Innovation or technology improvements that appear promising are tested and evaluated to see if they meet the Army's stringent requirements for protection. Thus far, we have tested hundreds of products. We are also pursuing a robust science and technology effort to identify promising body armor technologies. We are convinced that our Soldiers are wearing the best possible equipment right now. Commanders in the Theater of operations have the means to give their Soldiers the highest levels of protection known to the Army today.

There is a military proverb: *the best defense is a good offense*. We give our Soldiers more than body armor so that they can engage the enemy effectively. In October 2002, the Army began issuing Soldiers and units new equipment through the Rapid Fielding Initiative (RFI) program. The RFI leverages current programs and commercial-off-the-shelf technology to provide Soldiers, squads, and platoons, with equipment such as squad communications gear and building entry devices to enhance effectiveness in engaging the enemy. These items help Soldiers fight more effectively, reducing exposure to enemy attacks. Since the start of the RFI program, we have equipped over 660,000 Soldiers in 54 brigade combat teams and units supporting those teams. In Fiscal Year 2004 (FY04), the Army equipped over 184,000 National Guard, Reserve, and Regular Army Soldiers, issuing over 3,000,000 pieces of equipment. In FY05, the number of Soldiers fielded increased to over 260,000 Soldiers. Current plans for this fiscal year call for equipping over 296,000 Soldiers, with plans to equip the entire operating Army by the end of September 2007.

A key component of RFI is the fielding of the Advanced Combat Helmet (ACH). Soldiers in Iraq and Afghanistan have worn the ACH since October 2005, leveraging four years of development efforts by the Special Operations community, for their

Modular Integrated Communications Helmet. The ACH replaces the Army's Personnel Armor System, Ground Troops (PASGT) helmet or "Kevlar helmet" as it's commonly called, which had been in use since the early 1980s. The ACH provides improved ballistic and impact protection and is compatible with the current body armor system, night vision devices, communications packages, and nuclear, biological and chemical defense equipment. The ACH is a half-pound lighter than the PASGT helmet and is cushioned on the inside to provide more comfort to the Soldier. The ACH's chinstrap retention and pad suspension system provides unsurpassed balance, stability, and comfort which enables proper sizing, fit, and ventilation. Additionally, the ACH pad suspension system provides superior impact protections for all operational scenarios, including airborne operations and meets the Office of the Surgeon General guidelines for peak G-Force transfer of 150 "Gs" to prevent serious head injury as a result of blast or impact. The ACH also enables Soldiers to better aim and fire weapons from the prone position without interference with Interceptor Body Armor ensemble. To date, the Army has fielded 660,000 ACHs worldwide with an Army Procurement Objective of 958,000.

We are bolstering the protection afforded to our Soldiers when they are mounted and traveling the dangerous roads of Iraq and Afghanistan. The Secretary of the Army established an Armor Task Force at the General Officer level to provide increased management to the armoring effort. Weekly meetings of this task force began in December 2004, with the short-term goal of speeding up the armoring of tactical wheeled vehicles and the long-term goal of determining a comprehensive armoring strategy for all Army vehicles. The working group continues today to address emerging armoring and vehicle safety issues.

The issues the Armor Task Force address include enhancing the protection levels of tactical wheeled vehicles in one of two possible ways. The first and optimal solution, Level I, refers to new vehicles with factory integrated armor, ballistic windows, and air conditioning. The second, Level II armored vehicles, have been outfitted with Add-on-Armor kits consisting of Army designed and tested armor plates, ballistic glass, and air conditioning. The Army has extensively tested each of these armoring solutions against a variety of threats and will continue to test all applications submitted by industry and others. The Army met the Theater commander's Level I Armored High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) requirement of 9,727 in July 2005. The

Theater subsequently revised their requirement to include the need to replace most of their Level II HMMWVs as well as incorporating new requirements. We anticipate their revised requirement of 18,669 UAH will be met in March 2007. No un-armored or locally armored (Level III) vehicles may leave Forward Operating Bases, and these vehicles are being phased-out of the Theater.

The tactical wheeled vehicles that have received additional protection include: the HMMWV, the Heavy Expanded Mobility Tactical Truck (HEMTT), the Palletized Load System (PLS), the Family of Medium Tactical Vehicles (FMTV), the Heavy Equipment Transport (HET), the 5-ton truck (M900 series), and the M915/916 Line Haul Tractor. The table below provides details of each of these systems with their requirements, funded level, and on hand information.

VEHICLE SYSTEM	VALIDATED ARMOR REQMT 24 FEB 05	FUNDED	ARCENT REPORT AS OF 1 Jun 2006 LEVEL I / II	PERCENT OF TOTAL VALIDATED REQMT LEVEL I & II
Armored HMMWV	18,669	16,129	12,179 / 6,490	100%
FMTV	3,335	3,879	0 / 3,625	109%
M939+(5 TON)	2,688	3,000	0 / 2,722	101%
HEMTT	2,430	2,705	0 / 2,380	98%
PLS	914	1,275	0 / 1,031	113%
HET	758	796	0 / 757	100%
M915	1,877	2,125	0 / 1,910	102%
SUBTOTAL	30,671	29,909	12,179/18,915	101%

The Up-Armored HMMWV, which includes the M1114, M1151 and M1152 variants, are examples of vehicles with integrated armor (Level I) protection. These Up-Armored variants HMMWV protects against many of the known threats we have experienced in the AOR. Theater commanders deployed with 235 Up-Armored HMMWVs in May 2003. Industry produced 450 Up-Armored HMMWVs in October 2004 and has increased production to almost 1,100 armored variants in June 2006. The United States Central Command currently has over 12,500 Up-Armored HMMWVs in its area of responsibility. The Army continues to test and evaluate improvements to these systems, including ways to protect against the ever evolving threat.

The Army continues to spare no effort in anticipating and solving force protection challenges. For the past four months, at the direction of Army leaders, the Army

Training and Doctrine Command's Futures Center has been leading a Comprehensive Force Protection Initiative. This initiative's team, in conjunction with Materiel Development, Test, and Acquisition communities, is looking across the entire spectrum of doctrine, organizations, training, materiel, logistics, personnel, and facilities to identify OIF/OEF force protection gaps and to develop solutions to significantly enhance Army force protection efforts. As these solutions come forward, the Army has a very disciplined process to provide capability and field equipment. Any equipment that we field to the Soldier is safe, it is suitable, and it is effective. We have standards to make sure that all those particular criteria are met. If, in fact, those criteria are not met, then the equipment is not fielded.

Mr. Chairman, on behalf of our Soldiers, we deeply appreciate the assistance of the Congress and understanding the need to provide stable, predictable funding by supporting the President's Budget and supplemental requests and by engaging in a continual dialogue with us in this critically important area. We have described some successes in force protection above. However, be assured we are well aware that as long as Soldiers are in harm's way we have the sacred responsibility to remain committed to continuing to explore means and methods to improve their protection. Your continued support will directly assist us in giving our Soldiers in combat the best possible protection available. We are an Army at war, relevant and ready—today and tomorrow—and a full member of the Joint and Interagency Team now fighting terror around the world. Thank you for this opportunity to appear before you today; we look forward to answering your questions.

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT

OF

MAJOR GENERAL WILLIAM D. CATTO
COMMANDING GENERAL
MARINE CORPS SYSTEMS COMMAND

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

ON

MARINE CORPS FORCE PROTECTION EFFORTS - UPDATE

15 JUNE 2006

NOT FOR PUBLICATION UNTIL RELEASED BY THE
HOUSE ARMED SERVICES COMMITTEE

Major General
William D. Catto
Commanding General, Marine Corps Systems Command

Major General Catto's undergraduate degree is from Bethel College, his M.A. from Webster University, and he is an Acquisition Professional. General Catto has held command assignments at LtCol, Col, BGen, and MajGen ranks.

Following qualification to operate the CH-46, Major General Catto spent the next thirteen years in operational assignments. In squadrons he served in the Aircraft Maintenance, Administration, and Operations Departments. He served with 7th Marines as the Air Officer and then Regimental Operations Officer.

Following Command and Staff College, Major General Catto was assigned at Headquarters, U.S. Marine Corps, Washington, D.C., where he served in Manpower as the Major's Rotary-Wing Assignment Officer and then as the Administrative Assistant to the Deputy Commandant for Aviation.

Returning to the Operating Forces, Major General Catto was assigned to HMM-163 and served as the Executive Officer and then Commanding Officer where he deployed twice in MEU(SOC) rotations. Following this tour, he was assigned to the RAND Corporation in Santa Monica, CA, as a Marine Corps Fellow. Following this tour he was again ordered to duty in Washington, D.C., with the Office of the Secretary of Defense; Programs, Analysis, and Evaluations; Cost Analysis Improvement Group; Weapons Systems Cost Analysis Division. Major General Catto then went on to command Marine Aviation Weapons and Tactics Squadron One. In flying assignments, he has amassed more than 4,100 flight hours in 13 aircraft types.

From June 2000 to June 2002, Major General Catto served concurrently as Commanding General, Marine Corps Warfighting Laboratory and Vice Chief of Naval Research, Office of Naval Research. In July 2002, he assumed his current duties as the Commanding General, Marine Corps Systems Command.

Major General Catto's personal awards include the Defense Superior Service Medal; Legion of Merit Medal with gold star; Meritorious Service Medal with two gold stars; Air Medal with one Strike Flight Numeral; Navy and Marine Corps Commendation Medal; and the Navy and Marine Corps Achievement Medal.

Chairman Weldon, Congressman Abercrombie, and distinguished members of the Subcommittee, it is my honor to appear before you today to provide an update on the Marine Corps' efforts to provide the most capable force protection systems to our warfighters. But first, on behalf of all Marines and their families, I want to thank you for your continued support of our warfighters during this very challenging time.

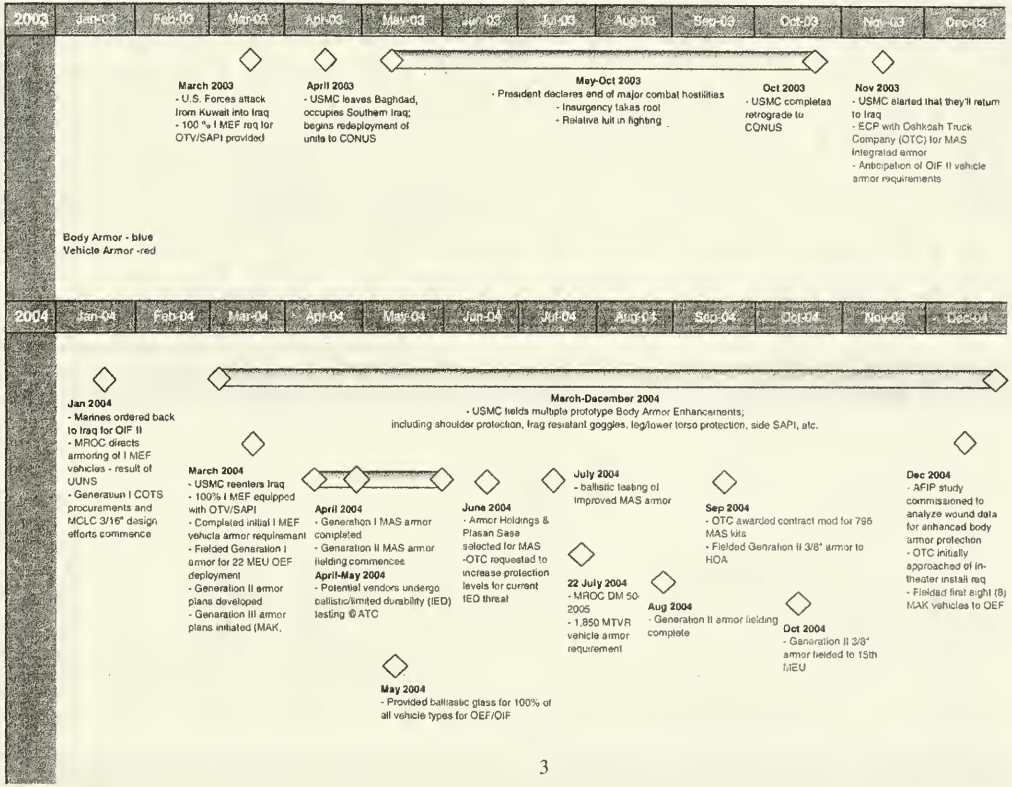
FORCE PROTECTION SYSTEM PROCUREMENT METHODOLOGY

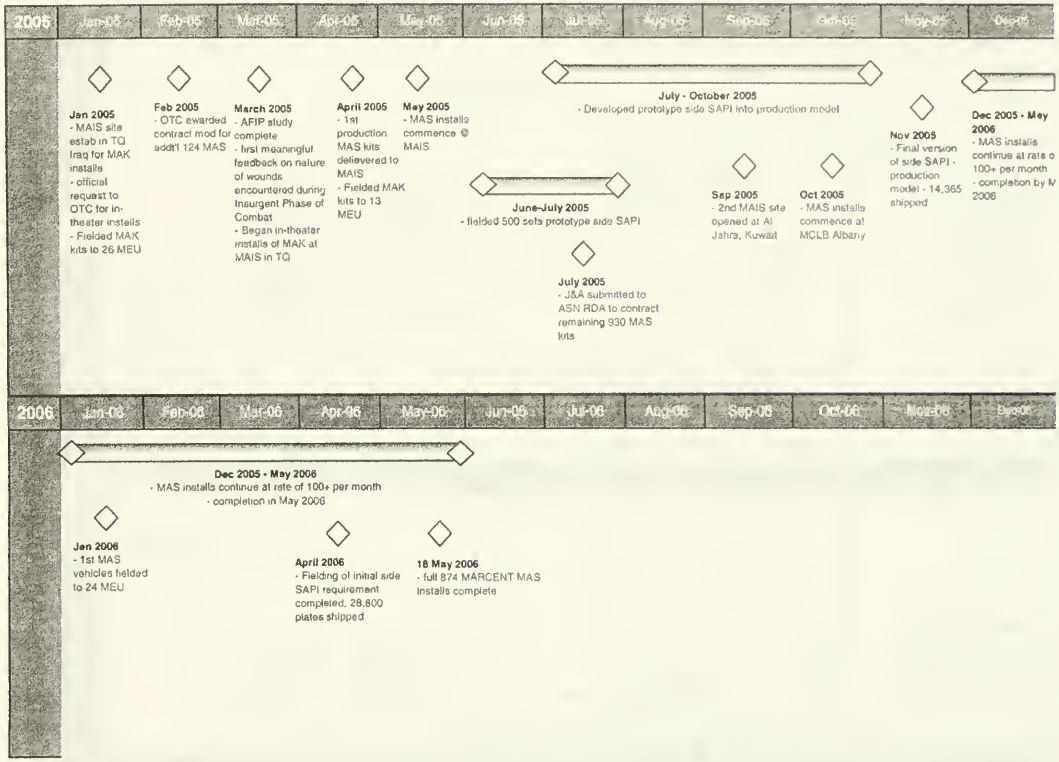
The Marine Corps' over-arching strategy since the start of Operation Enduring Freedom (OEF)/Operation Iraqi Freedom (OIF) has been to ensure that 100 percent of the Marine Corps' force protection requirements are met with the best systems available – and we succeeded. For development and fielding of all of our force protection systems, the Marine Corps has taken a rapid, generational approach. We identify the best systems available that can meet the needs and timelines of our warfighters, conduct rigorous testing on them to ensure the safety of our warfighters will not be compromised, and get those systems that pass our tests fielded as quickly as possible.

We don't stop once we have a system fielded. We continually look for ways to improve our force protection systems; and, they are not developed in isolation. We reach out to industry both here and abroad for design, development, and production assistance, our sister services to identify areas for joint activities and testing, and to the medical community for their expertise in making our systems the safest they can be for our warfighters.

We must also understand the environment in which our fielded systems will operate. By drawing on our intelligence resources for the latest information on the most prevalent devices and weapons our enemy is employing, the expertise of our workforce, and the insights of warfighters who have returned home, we have positioned ourselves to initiate innovative and rapid modifications to our equipment to meet evolving threats and future challenges by orchestrating mixes of solutions to counter changing and growing enemy capabilities. The following charts show how we have incorporated lessons learned from the warfighter since the start of OIF.

Force Protection Systems Timeline
(2003 to Present)




2005
Jan-05
Feb-05
Mar-05
Apr-05
May-05
Jun-05
Jul-05
Aug-05
Sep-05
Oct-05
Nov-05
Dec-05
Jan 2005
- MAIS site estab in TQ Iraq for MAK installs
- official request to OTC for in-theater installs
- Fielded MAK kits to 26 MEU
Feb 2005
- OTC awarded contract mod for addt'l 124 MAS
March 2005
- AFIP study complete
- first meaningful feedback on nature of wounds encountered during Insurgent Phase of Combat
- Began in-theater installs of MAK at MAIS in TQ
April 2005
- 1st production MAS kits delievered to MAIS
- Fielded MAK kits to 13 MEU
May 2005
- MAS installs commence @ MAIS
July - October 2005
- Developed prototype side SAPI into production model
June-July 2005
- fielded 500 sets prototype side SAPI
July 2005
- J&A submitted to ASN RDA to contract remaining 930 MAS kits
Sep 2005
- 2nd MAIS site opened at Al Jahra, Kuwait
Oct 2005
- MAS installs commence at MCLB Albany
Nov 2005
- Final version of side SAPI - production model - 14,365 shipped
Dec 2005 - May 2006
- MAS installs continue at rate o 100+ per month
- completion by M 2006
2006
Jan-06
Feb-06
Mar-06
Apr-06
May-06
Jun-06
Jul-06
Aug-06
Sep-06
Oct-06
Nov-06
Dec-06
Dec 2005 - May 2006
- MAS installs continue at rate of 100+ per month
- completion in May 2006
Jan 2006
- 1st MAS vehicles fielded to 24 MEU
April 2006
- Fielding of initial side SAPI requirement completed, 28,800 plates shipped
18 May 2006
- full 874 MARCENT MAS installs complete

PERSONAL PROTECTION

A significant element to any solution we propose or develop has been, and will always be, what the Marine in combat needs. A solution that is effective in one scenario may simply not be applicable in another. The wartime environment constantly changes and there is no one better suited to determine what would be effective in any given situation than the warfighter. That is why we provide solutions that can be configured to meet varying levels of threats. In the case of body armor, local commanders have appealed to higher headquarters for the ability to determine what piece or pieces of equipment their Marines will be required to wear as specific mission and environmental conditions dictate. We have answered that call with the modular design for our ballistic body armoring system.

Vests and Armor Plates

Providing ballistic personal armor protection to our warfighters is no exception to our iterative and Joint-Service cooperation methodology. Our individual protection vest system, known as the Interceptor Body Armor System, includes the Outer Tactical Vest (OTV), the Small Arms Protective Inserts (SAPI), and the Side SAPI. Working together, these individual systems provide the best possible levels of personal protection to known and anticipated threats.

When the Marines entered into Iraq for the first time in March 2003, 100 percent of the I Marine Expeditionary Force's (MEF) requirement for the OTV and SAPI was provided to the Infantry Battalions. This commitment to individual protection has continued through all subsequent Marine rotations into Iraq. For example, upon our return to Iraq for OIF II on March 19, 2004, the Marine Corps fielded to I MEF's ground forces a series of additional body armor components such as extremity body armor, lightweight helmets, and ballistic goggles based upon reports and requirements received from Marines who fought in OIF I.

OEF/OIF I/OIF II is the first time in U.S. history that all wartime casualties have been autopsied by Armed Forces Institute of Pathology (AFIP) to determine a cause of death. Therefore, in December of 2004, the Marine Corps Systems Command contracted the AFIP to evaluate data collected from autopsies performed on Marines in order to corroborate or redress our perception of the threat.

The primary purpose of the report was to analyze casualty data and assess areas of vulnerability in our entire body armor system with the intent of identifying areas for enhancement. The report from AFIP confirmed what we thought to be true, that side torso

protection should be added to our body armor system. We relayed our recommendation for side torso protection to Headquarters Marine Corps and the Fleet Marine Force. Based upon our recommendation, and concurrent with an Urgent Universal Need Statement submitted by II MEF forward, we fielded an interim Side SAPI capability and began developing a production model. As I reported to you in February, there was a requirement for 28,882 Side SAPI sets in theater, and we were successful in satisfying that requirement.

The Marine Corps has been able to continually and immediately provide improved personal protection equipment to our warfighters as more capable systems have been developed by our dedicated manufacturing base in concert with emerging warfighter requirements. As a result, 100 percent of our Marine ground forces have this improved personal protection equipment as they rotate into theater.

QuadGard

The QuadGard system is designed to provide ballistic protection for a Marine's arms and legs when serving as a gunner on convoy duty. This system, which integrates with other personal ballistic protection equipment such as the OTV, the SAPI, and the Lightweight Helmet, reduces minimum stand-off distances from the Marine to ballistic threats, particularly IED fragmentation threats.

Lightweight Helmet

The Marine Corps is committed to providing the best head protection to our warfighters. The reduced weight of the Lightweight Helmet, coupled with the suspension sling, provides the performance and protection capabilities required by our Marines in combat. Ballistics and testing experts at the Soldier System Center in Natick, Massachusetts, have confirmed the superiority of our helmet system when it comes to countering the potentially deadly effects of ballistic projectiles and fragment impacts and penetrations. The Medical Officer of the Marine Corps and an independent neurosurgeon with the Medical College of Wisconsin have also confirmed this fact.

The Marine Corps' Lightweight Helmet provides a high level of combat protection against fragmentation threats (0 degrees and 45 degrees obliquity) and 9mm bullets. Furthermore, the Lightweight Helmet also provides the greatest area of coverage – 15 percent more than the Army's Advanced Combat Helmet (size large). For our mission requirements, the

Marine Corps' focus is on protecting our warfighters from the effects of ballistic projectiles and fragment impacts and penetrations.

To date, the Marine Corps has fielded 130,555 of the required 198,088 Lightweight Helmet systems. In the last eight months alone, there have been three high-profile instances reported of Marines whose lives have been saved by this helmet system when struck directly with small arms fire.

We believe it is important to better understand the effects of ballistic loading when applied to the suspension system of the Lightweight Helmet and determine if this plays a role in peak force transmitted to the skull. Therefore, on behalf of the Marine Corps Systems Command, the Natick Soldier Center awarded a testing, modeling, and simulation contract to the University of Virginia Center for Applied Biomechanics in March 2006. The results should be reported in September 2006. The Army is currently conducting a similar test at their research lab facility in Aberdeen, Maryland. These tests will allow for even greater investigation into this area of study, and may lead to the inclusion of peak head force as a criterion in future helmet specifications.

Personal Protection in Closing

Marines and their families are welcome to individually procure personal protection equipment. However, local Marine commanders in theater will determine, on a case-by-case basis, if that equipment can augment personal protective equipment fielded by the Marine Corps for any mission undertaken. Today, there is no commercial product more capable than the equipment being issued to our Marines by the Corps.

We have always maintained, and will continue to remind you and our Marines in harms' way, that providing more robust personal protection solutions to our warfighters -- and providing these solutions immediately -- is of the utmost importance. The Marine Corps is committed to aggressively matching our equipment to changing threats. Our ability to rapidly modify our body armor system is a testament to this commitment.

TACTICAL WHEELED VEHICLES

The Marine Corps' strategy since the start of OEF/OIF has been to provide immediate armor support to all High Mobility Multipurpose Wheeled Vehicle (HMMWV) variants and all of our other tactical vehicles, such as the 7-ton Medium Tactical Vehicle Replacement (MTVR).

Our aim was to ensure that some level of protection be available to 100 percent of our vehicles. Therefore, we embarked upon an evolutionary, or phased, approach. By incorporating direct warfighter input and lessons learned in-theater, we have arrived at a very effective solution given the current warfighting environment – a solution that has clearly already saved lives.

MAK – Marine Armor Kits

Our non-M1114 variant HMMWVs are currently employed with integrated armor kits, known as Marine Armor Kits (MAK). The MAK system is a modular, bolt-on system that can be installed by Marines of any Military Occupational Specialty. The MAK systems, whose design incorporates lessons-learned from testing and in-theater operations, offer significantly improved protection against the most prevalent threats, including small arms fire, IEDs, and mine blasts up to 4 pounds. Because the MAK is kit armor, it is classified as Level 2 armor. MAK system installations were completed in December 2005.

MAS – MTVR Armor System

Similarly, for our MTVR 7-ton trucks, we developed what is known as the MTVR Armor System (MAS). This armor system is a permanent modification to our MTVRs, and is therefore classified as Level 1 armor. It is designed for the life of the vehicle (21 years). The MAS is capable of withstanding small arms fire, IEDs, and mine blasts up to 12 pounds. It consists of metal/composite panel armor, with separate cab and troop compartment kits, dependent upon cargo or personnel variants of the MTVR.

The MARCENT installation requirement for the MAS was completed in May 2006, nearly five months earlier than originally forecasted. Thus, we have 874 MTVRs with MAS in theater, and our MTVR armoring mission is considered complete.

M1114 - Upgrade

Marine Corps M1114s are currently undergoing an upgrade. The Frag Kit 5 provides for replacement of doors and rocker panel assemblies for the M1114 fleet. The material focuses on the rolled homogeneous armor (RHA)/steel solution used and battle tested with the MAK on the HMMWVA2 fleet, with an emphasis on detailed integration with the M1114. The existing M1114 high hard steel and aluminum rocker panel will be removed and replaced with an RHA/steel rocker panel design, which will structurally tie into the roof support and allow heavier armored doors to perform during day-to-day operations. This upgrade will also provide for

replacing the hinge system on the rear door. During this upgrade, the Marine Corps will continue to evaluate the Army's objective kit development and share information and lessons learned.

Status of Vehicle Armoring

The following charts depict (1) the current state of our vehicle armoring efforts, and (2) where we are going in the future with respect to our vehicle armoring efforts.

MARCENT Current Vehicle Armoring Posture

Since August 2004 all Marine Corps vehicles operating outside the FOBs have been at Level II or better armor protection.

	Vehicle Systems in CENTCOM AOR	OIF O/H	OEF O/H	HOA O/H	Total	Level I	Level II	Level III	Total Unarmored Vehicles not Leaving FOBs
	M1114	1791	16	0	1807	1807			
LTV	HMMWV	2881	6	16	2903	0	2875	13	17
MTV	5-ton	121	0	0	121	0	121	0	0
	MTVR	976	0	0	976	856	120	0	0
HTV	LVS	235	0	0	235	0	235	0	0

Note 1: MNC-I and CJTF-76 have provided 447 M1114s to II MEF (Fwd) in OIF and 6 in OEF respectively

Note 2: 1,376 of the 2272 (446 + 1302 + 524) M1114s under contract have been fielded

Level I: A wheeled vehicle that is manufactured as an armored vehicle

Level II: HQDA and Marine Corps approved Add-on-Armor (AoA) kits

Level III: Hardening of vehicles through fabricated armor (HQDA) approved steel

As of 4 Jun 06

MARCENT Armor Way Ahead

Currently improving existing HMMWV Level II protection with Level II (plus) protection (MAK) and MTVR Level II protection with Level I protection (MAS).

	Vehicle Systems	OIF Req	OEF Req	HOA Req	MARCENT Req in CENTCOM Theater	Level I	Level II	Level I & II MARCENT Validated Operational Requirement will be Met
	M1114 - M1151/52	2270	18	0	2288	2288		Jul 06
LTV	HMMWV	985	0	16	1001	0	1001	Nov 05
MTV	5-ton	122	0	0	122	0	122	Oct 05
	MTVR	920	0	0	920	818	102	May 06
HTV	LVS	236	0	0	236	0	236	Nov 05

Note 1: Total Marine Corps requirement 2,627; 2,288 as the MARCENT requirement and 339 as sustainment and training vehicles

Note 2: M1114: 1,376 total delivered, 0 this week; 0 enroute to TQ; 100 awaiting intra-theater lift; 210 undergoing deprocessing; 119 (Resolve) enroute to KU

Note 3: To date, 874 out of 874 MARCENT MAS kits installed; mission complete.

Note 4: MTVR Wreckers & Dumps cannot be armored w/ MAS; they are armored with MAK for MTVR thus they will remain at Level II

As of 4 Jun 06

Tactical Wheeled Vehicles in Closing

Currently, all of our wheeled tactical vehicles that operate outside Forward Operating Bases are armored at either Level I or Level II. One-hundred percent of our 1,807 M1114s in theater are armored at Level I, and one-hundred percent of our 2,594 HMMWVA2s with MAK in theater are armored at Level II. By the end of July 2006, we will have met the MARCENT requirement of 2,288 Level I M1114s in theater.

The Marine Corps is committed to aggressively matching our equipment to changing threats. Our ability to rapidly modify our vehicle armoring systems is another testament to this commitment.

DEFEATING/COUNTERING IMPROVISED EXPLOSIVE DEVICES

Cougar

In support of critical Explosive Ordnance Disposal (EOD) and combat engineer operations, the Marine Corps has fielded 26 hardened engineer vehicles, also known as Cougars, in support of OIF II. These vehicles provide unmatched protection capabilities for Combat Engineers and EOD teams by withstanding both Armor-Piercing and Anti-Tank mine blasts.

Joint EOD Rapid Response Vehicle (JERRV)

On 21 April 2005, via the Joint Rapid Acquisition Cell, the Deputy Secretary of Defense designated the Marine Corps Systems Command as the joint agent for the procurement of 122 Joint EOD Rapid Response Vehicles (JERRVs) for all joint EOD forces in theater. These vehicles are designed with protection capabilities that are very similar to the Cougar. Thirty-eight of these vehicles are scheduled to be fielded to the Marine Corps. All JERRV production deliveries are expected to occur by June 2006. In addition to the original 122 JERRVs, the Marine Corps Systems Command awarded a contract in May 2006 for an additional 57 systems for our joint EOD forces.

WHERE WE ARE GOING IN THE FUTURE

Recognizing that our enemy is constantly evolving and changing his tactics, we are looking toward the future of force protection for our warfighters, on an individual level, and that of their vehicles, not just to combat the enemy's current capabilities, but also to prepare ourselves for future adaptations in the enemy's tactics.

First and foremost, we will continue to execute our current force protection requirements. The Marine Corps Systems Command is also poised to execute any new, validated requirements or capability needs that are identified by the warfighter. We make every effort to consider all available options as we work to find solutions to new threats, regardless of whether the solution can be found here or abroad, including opportunities to provide capability enhancements and opportunities for shortening delivery schedules.

With regard to our personal protection systems, we've gone about as far as we can go with current technologies. We continue to configure our modular ballistic system in order to enable the individual Marine to construct various Armor Protection Levels to meet specific missions as we also continue to investigate potential breakthroughs in more capable technologies.

The Marine Corps' vehicle armoring future looks promising. The Joint Light Tactical Vehicle (JLTV) is the future of our armored vehicle program. It is a joint program, with the Army, for an enclosed, highly survivable, mobile, family of vehicles capable of performing multiple mission roles. The JLTV will support all tactical operations for a major theater war and/or task associated with Stability and Support Operations.

In the interim, we're moving forward with approvals for the Medium Mine Protected Vehicle (MMPV), which has been requested as a Joint Urgent Operational Need. Various types of IEDs, rocket propelled grenades, and small arms fire in-theater make it necessary for the Marine Corps to field a vehicle capable of surviving these types of attacks, and be able to counter attack. The MMPV provides that increased survivability and mobility. The Marine Corps plans to procure and field 185 MMPVs, which will provide our forces with a modular and scalable system capable of increasing the level of protection in accordance with the type of weapons available to the enemy.

Our future will also see fieldings of Mine Rollers, Material Handling/Construction Equipment Armor, and Marine Corps Transparent Armor Gun Shield (MCTAGS). The "mine roller" system will help protect convoys from the effects of pressure-plate activated mines and victim operated IEDs. The Marine Corps currently owns one mine roller system and will begin to deliver the 23 production systems to Iraq by the end of the summer.

Since the Marine Corps currently has no standard armor protection kits for our material handling and construction equipment, we are pursuing an armor solution. This up-armor will

provide protection from IEDs, indirect fire, and other small arms fire to an operator conducting engineer missions.

The MCTAGS program provides for transparent armor (ballistic glass) and steel plating that allows a gunner continual observation capability and increased security via 360 degree protection. It will protect the gunner from ballistic and IED fragmentation threats when used with the HMMWV, MTVR, Logistics Vehicle System, M1A1, M88, and Cougar/JERRV series vehicles. The MCTAGS adds additional ballistic glass side panels and provides a common system across the platforms.

THE BOTTOM LINE

We are doing everything we can to ensure the safety of our Marines by providing them the best and most effective force protection solutions. The lives of our Marines, sailors, and soldiers are our most precious assets and their preservation through better and more capable equipment has been, and will always be, the singular priority of the Marine Corps Systems Command. Your support for more robust and timely funds will position the Systems Commands throughout the Department of Defense to continue with proactive approaches to ensuring our warfighters' safety.

We cannot afford to lose sight of the lessons we have learned about our enemy, and about our own capabilities, through the loss of American lives. These difficult lessons were purchased with our young warriors' lifeblood. They are too precious to forget and we will remember them as we move forward. With your continued support, we can ensure our Marines are ready for the current fight, as well as any future fights. Thank you.

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HOUSE ARMED SERVICES
COMMITTEE
TACTICAL AIR AND LAND FORCES
SUBCOMMITTEE

STATEMENT OF

ROGER M. SMITH
DEPUTY ASSISTANT SECRETARY OF THE NAVY
(LITTORAL AND MINE WARFARE)

BEFORE THE

TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

NAVY PERSONAL EQUIPMENT FORCE PROTECTION

JUNE 15, 2006

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HOUSE ARMED SERVICES COMMITTEE
TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

Mr. Chairman and members of the subcommittee, thank you for the opportunity to appear before you today to discuss the Navy's individual protection equipment (IPE) requirements and equipping process. The Navy procures and fields various IPE configurations based on our ashore and maritime mission requirements as defined by combatant commanders. These systems all provide a minimum of National Institute of Justice (NIJ) level IIIA ballistic protection.

The Navy personnel deployed worldwide engaged in the Global War on Terror (GWOT) currently fluctuates around 10,000 personnel depending on unit rotations. About 79 percent of these personnel are deploying and supporting ground forces in their traditional military specialties, or core competencies ashore, such as base and port operations support, medical services, explosive ordnance disposal teams, construction and engineer battalions (Seabees), electronic warfare, mobile security forces, detainee operations, infrastructure protection, and traditional joint intelligence and staff support. Navy personnel fulfill four basic requirements; 1) unit or individual, 2) active component (AC) / reserve component (RC) or a blended AC/RC mix, 3) joint requirements or internal Navy requirements; and 4) pre-planned, existing structure or ad-hoc needs. Navy personnel are equipped with IPE appropriate for the required mission that the individual or the unit they are assigned will perform.

The Navy acquires IPE for three main mission requirements:

1.) Navy expeditionary forces;

2.) Individual augmentees assigned to joint forces; and,

3.) Shipboard anti-terrorism.

1. NAVY EXPEDITIONARY FORCES

Navy expeditionary forces primarily comprise the core missions of Naval Construction Forces (NCF), or Seabees, airlift support, cargo handling, maritime security, and medical / Marine Corps support. The IPE acquired for these personnel is procured through various buying agencies.

NCF (Seabees)

Determination of NCF requirements is a collaborative process between the First Naval Construction Division (Fleet), Naval Facilities Engineering Command (Systems Command), OPNAV N43 (Resource Sponsor), and the Naval Facilities Engineering Logistics Center (Table of Allowance (TOA) Managers). A Logistics Working Group meets quarterly to review and assess new requirement recommendations, which are based on research of industry product development, Department of Defense (DoD) standards, field testing results, and procurement options. Interoperability and commonality of products with the Marine Corps and /or the Army is maximized to the greatest extent possible. IPE is acquired and fielded in accordance with Task Force Commander Area of Operations Doctrine. Fielding of requirements is based on the Fleet's prioritization of needs.

We currently have 1,800 Seabees deployed in the Central Command area of operations, with three quarters of those deployed to Operation Iraqi Freedom (OIF). These forces are typically on 179-day rotations into theater.

NCF IPE

Current IPE consists of "782 gear," or fighting load, helmets and body armor. The NCF is researching new technologies to upgrade, modernize and provide maximum interoperability with the USMC and Army.

Helmets

The Seabees use the Personnel Armor System, Ground Troops (PASGT) Kevlar composite helmet up-graded with a Ballistic Liner Suspension System (BLSS). The BLSS was fielded as an upgrade to the helmet within the past 18 months as a result of feedback and post deployment lessons learned. The decision to upgrade the helmet versus procurement of the Army's Advanced Combat Helmet (ACH) was determined through trade off analysis conducted to determine weight versus ballistic coverage benefits. The Kevlar helmet weighs approximately 3.4 lbs versus the ACH at 2.6 lbs, but provides over 10 % more front and side coverage than the ACH. The BLSS provides the same level of comfort and stability as the ACH and provides increased protection against blunt force trauma. It was also more cost effective to procure an upgraded suspension system versus a completely new helmet system and the NCF desired the additional ballistic coverage provided by the existing PASGT helmet.

Body Armor

The NCF is currently outfitted with the standard Interceptor Outer Tactical Vest (OTV) with Small Arms Protective Insert (SAPI) plates, groin protector, throat protector and side plates for enhanced ballistic protection. Four thousand sets of side SAPI plates were ordered in March 2006 for delivery to units deployed in OIF. The SAPI plates for deployed forces have been replaced with enhanced SAPI (ESAPI) plates, of which 800 sets of ESAPI were ordered in March 2006 for deployed units in OIF. Additionally, a limited quantity of 100 sets of Quad Guard systems, which provide supplemental protection to exposed arms and legs were procured and deployed to OIF deployed units for evaluation. The Quad Guard system protects ground troops, stationary guard post or gunner's positions.

Non-NCF EXPEDITIONARY FORCES

Requirements for non-NCF expeditionary personnel, such as, maritime security forces, are determined through the Navy's requirements generation process. The Navy's Program Executive Officer (PEO) (Littoral and Mine Warfare) is the central procuring agent for these fleet requirements. For example, the PEO (LMW) is the procurement agent for IPE for Naval Coastal Warfare (NCW) squadrons and these units field the IPE to the assigned personnel. These personnel typically wear the "RBR" (contractor's name) helmet rigged with a standard, four-point fully adjustable suspension system or an optional mil-spec padded suspension system. The helmet is comparable to the Army's ACH with its higher cut around the neck, which provides more head movement,

peripheral vision, and operation of communications systems and weighs 2.6 – 2.9 pounds. NCW personnel wear a lightweight, modified Interceptor Body Armor OTV with "GAMMA-L" (contractor's name) front, back and side panel ballistic plates. These OTVs incorporate a floatation collar for buoyancy and a quick release mechanism for jettisoning the ballistic plates to reduce the vest's weight if an individual wearing the vest experiences an unplanned water entry. The vest is adjustable via shoulder straps with removable front and back soft ballistic panels and offers the option to attach additional groin, throat and shoulder panels. The GAMMA-L ballistic plates provide NIJ level IV protection and are an alternative source the Navy developed due to the limited availability of ESAPI plates.

MARINE CORPS EXPEDITIONARY FORCES SUPPORT PERSONNEL

Navy medical, religious and other support personnel (e.g., doctors, dentists, corpsmen, chaplains, religious support personnel, etc.) assigned to our Marine Expeditionary Forces are provided the IPE the Marine Corps issues to its personnel and to the level of protection required by the units they are assigned to.

2. INDIVDUAL AUGMENTEES

Individual augmentees (IAs) comprise the majority of the approximately 10,000 Navy personnel deployed in support of the GWOT. The IAs that will be assigned to specific Army units go through a 14 day pre-deployment training course at Fort Jackson, South Carolina. This Navy Individual Augmentee Combat Training curriculum was developed in coordination with the Army. Theater or mission specific training, which

IAs may require is determined by the combatant commander and the IAs receive it prior to deployment. Additionally, eight hours of online training on rights and responsibilities is required to be completed through Navy Knowledge Online prior to deployment. Approximately 360 IAs / month are trained at Fort Jackson. The Army's PEO (Soldier) issues the standard Army IPE to Navy IAs at this site.

Other "in lieu of" IAs, such as, supply clerks, electronics technicians, information technology technicians, etc., who will fill other joint force and staff theater requirements, are trained at other Army Training and Doctrine Command sites around the country depending on their specialty and receive a 14 day training profile as well. These IAs are trained and issued standard Army IPE at these sites.

The Navy reimburses the Army for this gear.

3. SHIPBOARD ANTI-TERRORISM:

SHIPBOARD IPE

Officers and sailors wear the standard Army PASGT issue Kevlar composite helmet and "Point Blank," (contractor's name) concealable body armor IPE for shipboard internal security, general quarters and antiterrorism missions. The helmet is worn with the standard suspension system and provides the standard ballistic protection. The Point Blank ballistic vest can be worn under other uniform attire if required, provides extended length front and back coverage as well as side ballistic coverage. It allows for enhanced

chest coverage, is adjustable through elastic straps, has removable ballistic panels, and can accept front and back ballistic plates, which provide NIJ level IIIA protection.

VISIT BOARD, SEARCH AND SEIZURE / ENHANCED MARITIME INTERCEPT OPERATIONS (VBSS / EMIO)

Personnel conducting VBSS / EMIO wear uniquely-configured equipment due to the physical requirements of transferring between rigid hull inflatable boats and ships and vessels which are being boarded, as well as negotiating ladders and passageways while aboard the ship or vessel. The VBSS / EMIO teams wear the "RBR" (contractor's name) tactical helmet and "London Bridge" (contractor's name) ballistic tactical vest, which provides NIJ level III ballistic protection with front, back and side ballistic ceramic plates. The plates are neutrally buoyant for enhanced safety during water operations. The London Bridge ballistic tactical vest also acts as a floatation vest and is adjustable through elastic straps, which provide a firm and custom fit. The RBR helmet worn by these forces is the same helmet outlined earlier in the section titled "Non-NCF EXPEDITIONARY FORCES".

CONCLUSION

The Navy procures and equips its forces with the best available IPE, tailored to our maritime and joint mission requirements and continues to conduct market analysis as required to make the resource sponsors and fleet knowledgeable of improvements in equipment.

DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

COMMITTEE ON ARMED SERVICES

UNITED STATES HOUSE OF REPRESENTATIVES

SUBJECT: FORCE PROTECTION ISSUES

STATEMENT OF: BRIGADIER GENERAL GARY T. MCCOY
DIRECTOR OF LOGISTICS READINESS,
DEPUTY CHIEF OF STAFF/LOGISTICS, INSTALLATIONS &
MISSON SUPPORT
UNITED STATES AIR FORCE

JUNE 15, 2006

NOT FOR PUBLICATION UNTIL RELEASED
BY THE ARMED SERVICES COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES

BIOGRAPHY

UNITED STATES AIR FORCE

BRIGADIER GENERAL GARY T. MCCOY

Selected for promotion to major general.

Brig. Gen. Gary T. McCoy is Director of Logistics Readiness, Office of the Deputy Chief of Staff for Logistics, Installations and Mission Support, Headquarters U.S. Air Force, Washington, D.C. The directorate is responsible for organizing, training and equipping 33,000 people worldwide in the Air Force logistics readiness career field, including materiel and equipment management, fuels, vehicle management and operations, distribution, personal property and passenger traffic management. This includes the development of Air Force agile combat support concepts, doctrine, exercises and sustainment policies with the Office of the Secretary of Defense, defense agencies, the Joint Chiefs of Staff, and combatant commanders and major command staffs.

A South Carolina native, General McCoy was commissioned through the Officer Training School in July 1976 and has served in a variety of command and staff assignments. He began his career as a logistics officer with the Air Force Communications Service and was then assigned as a senior management consultant with the Leadership and Management Development Center, Air University. A career logistics officer, he has commanded a supply squadron and a logistics group, and he has served staff tours at both major command and Air Staff levels. He has also served as a deputy program manager, a joint duty officer with the Defense Logistics Agency and an air logistics center product director. Prior to his current assignment, General McCoy was the Director of Logistics and Sustainment, Headquarters Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio.

EDUCATION

1975 Bachelor of Arts degree in sociology, Culver-Stockton College, Mo.
1978 Squadron Officer School, Maxwell AFB, Ala.
1979 Master of Arts degree in human resources management, University of Redlands, Calif.
1981 Marine Corps Command and Staff College, by correspondence
1987 Air Command and Staff College, Maxwell AFB, Ala.
1987 National Security Management Program, by correspondence
1993 Armed Forces Staff College, Joint and Combined Staff Officer School, Norfolk, Va.
1996 Air War College, Maxwell AFB, Ala.

ASSIGNMENTS

1. October 1976 - May 1979, Chief, Logistics Support Division, 1965th Communication and Installation Group, Norton AFB, Calif.
2. May 1979 - May 1982, senior management consultant, Air University, Maxwell AFB, Ala.
3. May 1982 - July 1983, Air Staff training officer, Headquarters U.S. Air Force, Washington, D.C.

4. July 1983 - June 1985, Air Force Logistics Command logistics liaison officer, Headquarters Strategic Air Command, Offutt AFB, Neb.
5. June 1985 - July 1986, Assistant Chief of Supply, 51st Tactical Fighter Wing, Osan Air Base, Korea
6. July 1986 - June 1987, student, Air Command and Staff College, Maxwell AFB, Ala.
7. June 1987 - June 1989, Chief, Logistics Management Branch and A-10 Deputy System Program Manager, Sacramento Air Logistics Center, McClellan AFB, Calif.
8. June 1989 - July 1991, Chief, Depot Maintenance Distribution Support Division and Deputy Director of Supply, Headquarters Air Force Logistics Command, Wright-Patterson AFB, Ohio
9. July 1991 - May 1993, Commander and Chief of Supply, 48th Fighter Wing, Royal Air Force, Lakenheath, England
10. May 1993 - July 1995, Chief, Air Force Readiness Support, Headquarters Defense Logistics Agency, Cameron Station, Va.
11. July 1995 - June 1996, student, Air War College, Maxwell AFB, Ala.
12. June 1996 - May 1998, Commander, 82nd Logistics Group, 82nd Training Wing, Sheppard AFB, Texas
13. May 1998 - June 1999, Chief, Materiel Management Division, Directorate of Logistics, Wright-Patterson AFB, Ohio
14. June 1999 - July 2000, Deputy Director of Logistics, Directorate of Logistics, Wright-Patterson AFB, Ohio
15. July 2000 - March 2002, Director, Avionics Management Directorate, Warner Robins ALC, Robins AFB, Ga.
16. March 2002 - February 2003, special assistant for Depot Maintenance Reengineering and Transformation to the Deputy Chief of Staff for Installations and Logistics, Headquarters U.S. Air Force, Washington, D.C.
17. February 2003 - November 2003, Deputy Director of Maintenance, Deputy Chief of Staff for Installations and Logistics, Headquarters U.S. Air Force, Washington, D.C.
18. November 2003 - January 2006, Director of Logistics and Sustainment, Headquarters Air Force Materiel Command, Wright-Patterson AFB, Ohio
19. January 2006 - February 2006, Director of Logistics Readiness, Office of the Deputy Chief of Staff for Installations and Logistics, Headquarters U.S. Air Force, Washington, D.C.
20. February 2006 - present, Director of Logistics Readiness, Office of the Deputy Chief of Staff for Logistics, Installations and Mission Support, Headquarters U.S. Air Force, Washington, D.C.

MAJOR AWARDS AND DECORATIONS
Legion of Merit with oak leaf cluster
Bronze Star Medal
Defense Meritorious Service Medal
Meritorious Service Medal with silver and bronze oak leaf clusters
Air Force Commendation Medal with oak leaf cluster

EFFECTIVE DATES OF PROMOTION
Second Lieutenant July 28, 1976
First Lieutenant July 28, 1978
Captain July 28, 1980
Major May 1, 1985
Lieutenant Colonel May 1, 1990
Colonel May 1, 1996
Brigadier General April 1, 2003

(Current as of May 2006)

Introduction

Chairman Weldon, Ranking Member Abercrombie, and distinguished members of the committee, I want to thank you for the opportunity to appear before you to present the status of Air Force requirements for force protection equipment and discuss how we determine requirements for expeditionary Airmen. As the Director of Logistics Readiness, Deputy Chief of Staff for Logistics, Installations and Mission Support, it is my privilege to report on our force protection efforts, our successes and our challenges for the future. On behalf of Secretary Wynne, General Moseley and the men and women of the United States Air Force, thank you for your continued, strong support.

First let me begin by stating, the Air Force continues to provide significant support to the Global War on Terrorism. We currently have over 30,000 personnel deployed in support of Operations Iraqi and Enduring Freedom. Since 9/11, we have deployed over 370,000 Airmen to aggressively fight the war on terror. We have flown over 422,000 (80% of the total Coalition air effort) combat sorties, moved 3.7 million passengers and close to 1.7 million short tons of cargo, and delivered almost 500 million gallons of fuel. We are also still actively involved in humanitarian operations around the globe. In the wake of the Tsunami that devastated Indonesia and South Asia, our Airmen responded immediately by airlifting over 24 million pounds of relief supplies and 8,000 people. Additionally, there are almost 5,000 Airmen performing "in-lieu of" missions with the US Army, including convoy support, detainee operations, protective service details, military transition and reconstruction teams (rebuilding infrastructure in Iraq and Afghanistan). The Air Force has made enormous strides in obtaining more advanced protective gear and equipment for our Airmen, specifically in the areas of combat helmets, body armor and up-armored, highly mobile, multi-wheeled vehicles.

Protective Gear and Equipment

The Air Force has adopted for use by our Security Forces personnel, the Advanced Combat Helmet, used by the United States Army and when not available, the Marine Corps' Lightweight Combat Helmet is used as a suitable substitute. Each of these helmets includes a suspension system consisting of padding and a mesh or sling option as appropriate. The Personal Armor System, Ground Troops is currently the standard helmet for the Air Force; however, to provide additional cushioning, units are procuring the Oregon Aero Ballistic Liner & Suspension System kit. It includes a four-point chinstrap and padding engineered to replace the sling liner in the current helmet. The kit is designed to decrease the risk of damage to the skull or brain injury due to blast forces, fragments, vehicle accidents, and falls. Future plans may require a replacement to our current Air Force standard helmet. At that time, consideration will be given to fielding the Advanced Combat Helmet and/or Lightweight Combat Helmet across the broader Air Force.

In addition to helmet considerations, we have also made great strides fielding improved body armor for our Airmen. The current fielding plan for Individual Body Armor supports our forces deployed to the USCENTCOM AOR and National Military Strategy objectives. Our initial focus for body armor was primarily on United States Central Command Area of Responsibility requirements. Individual Body Armor is issued to all our Service members and Department of Defense personnel assigned in Iraq, Kuwait, Afghanistan, and the Horn of Africa.

The current Air Force Standard for body armor consists of the Outer Tactical Vest combined with two rifle plates called Small Arms Protective Inserts. Beginning in FY05 the Air Force began fielding the next generation rifle plate called Enhanced Small Arms Protective Inserts, which provides similar protection to the National Institute of Justice Level IV+

protection and safeguards against armor-piercing rounds. Personnel deploying into the Area of Operation are issued individual body armor in-theater at one of the three Expeditionary Theater Distribution Centers located at Qatar, Ali Al Salem, and Manas.

Finally, the Air Force is continuing to make progress to improve ground vehicle protection. Our current requirement for up-armored highly mobile, multi-wheeled vehicles is 280. We have met that requirement.

In 2004, we transferred 196 vehicles to the United States Army to assist them in meeting critical shortfalls in executing their war effort; supplemental funding was received in fiscal year 2005 to offset the transfer.

In response to ongoing changes to base security protection requirements and to provide greater firepower and protection against improvised explosive devices, our security forces community is examining the way they conduct base security operations in the Area of Responsibility. They are fielding up-armored highly mobile, multi-wheeled vehicles and exploring the use of M1117s, Armored Security Vehicles, to support air base security operations. The M1117 is designed to provide maximum survivability and provides almost twice the ballistic protection of the current highly mobile, multi-wheeled vehicle (12.7mm vs. 7.62mm).

Challenges

The Air Force is continuing to make significant improvements but even so, there are still challenges to overcome. Our goal is to submit a request for $61M in Global War on Terrorism supplemental funding to purchase the Advanced Combat Helmet for the Air Force. Additionally, the current highly mobile, multi-wheeled vehicle does not provide sufficient armor or operational capability to protect passengers from improvised explosive devices, landmines, and rocket propelled grenades that are increasingly defeating the current armor configuration with devastating effects. In order to combat this issue and to support their new base security

operation plan, the Security Forces community has submitted an unfunded requirement of $51.8M in the FY07 Presidential Budget Amendment funding which buys 60 of 115 up-armored, highly mobile, multi-wheeled vehicles and 58 of 89 Armored Security Vehicles. An additional requirement for $29M will be submitted in the FY07 Global War on Terrorism supplemental.

In addition, the chassis and power train on the up-armored highly mobile, multi-wheeled vehicle are under extreme stress from the additional weight (add-on armor, sandbags, additional steel plating, etc) necessary to provide the protection needed to mitigate the effects of improvised explosive devices, landmines, and rocket-propelled grenades. The added weight has decreased the operational speed of the vehicles during convoys, increased braking distances, caused stress cracks in vehicle frames, and has increased engine and transmission failures.

Summary

Improved helmets and body armor are critical to protecting each and every Airman and we are committed to obtaining more advanced protective gear and equipment to ensure the safety of our Airmen. We are also aggressively committed to acquiring a ground vehicle capable of defeating the continuing proliferation of improvised explosive devices, and will continue to assist the Security Forces community, if needed, in securing funding for the new and improved M1117s purchase. The Air Force is on a continuing path to transform from an old Cold War structure to one that best executes expeditionary warfare. Tantamount to executing expeditionary operations is ensuring our Airmen are given the protective gear and equipment they need to accomplish the mission and keep them alive. Thank you again for your dedication and all you do to support our Airmen.

QUESTIONS AND ANSWERS SUBMITTED FOR THE RECORD

JUNE 15, 2006

QUESTIONS SUBMITTED BY MR. WELDON

Mr. WELDON. General, the point I have to ask, then is, why would you then issue this helmet to your recon folks who are in a more hostile environment?

General SPEAKES. We have provided a copy of the requested helmet study to the committee under separate cover.

Mr. WELDON. What types of combat helmets are issued to sailors, Seabees, small boat teams, etc?

Mr. SMITH. Shipboard security forces currently use the standard issue Army Personal Armor System, Ground Troops (PASGT) helmet.

Vessel Boarding Search and Seizure Enhanced Maritime Interdiction Operations Level II mission boarding teams use the RBR helmet, which is named for the contractor that produces the helmet. It has the same measurements as the Army Advanced Combat Helmet.

Naval Coastal Warfare (NCW) units are currently being equipped with the RBR helmet. This is a replacement for the PASGT helmet, which is still held by reserve units in the United States. Personnel are issued RBR helmets prior to deployment. Additionally, sailors assigned as crewmen on NCW patrol craft use the Gentex Tactical Communications Helmet (TCH) and during boat missions, crewmen wear the TCH. Crewmen are issued the RBR helmet as part of their personal protective equipment. When on other missions, they wear the RBR. Non-crewmembers wear their individual helmets when embarked on a patrol craft.

Explosive ordnance Disposal personnel, Riverine Group personnel and Navy Individual Augmentees are issued the Modular Integrated Communications Helmet/Advanced Combat Helmet.

Naval Construction Force (Seabees) personnel and Naval Expeditionary Logistic Support Group personnel are issued the PASGT helmet.

Mr. WELDON. Does the Navy currently have its own combat helmet development program? Is the Navy evaluating the new Army or Marine Corps helmet?

Mr. SMITH. The Navy does not develop tactical ballistic helmets for ground troops. The Navy develops helmets for specific Navy requirements to include maritime aircrews, boat crews, flight deck personnel, etc. However, the Navy follows the Marine Corps and Army efforts for all ground combat equipment, including helmets.

Naval Coastal Warfare (NCW) personnel have had the opportunity to examine and consider the Advanced Combat Helmet (ACH). Their RBR helmet is very close in performance, weight and comfort to the ACH. NCW personnel have not evaluated the Marine Corps lightweight helmet.

Mr. WELDON. How do deploying expeditionary sailors in OIF and OEF who are assigned ground force missions such as convoy security protection receive their personnel protective equipment?

Mr. SMITH. Naval Construction Force Seabees are issued their Personal Protective Equipment (PPE) (combat helmet, body armor, ballistic eyewear, gas mask/canisters, etc.) in homeport prior to deploying in support of OIF/OEF. Due to limited availability of Enhanced Small Arms Protective Inserts (ESAPI), personnel are issued standard SAPI plates in homeport. Personnel deploying in support of OIF swap out their issued SAPI plates for ESAPI plates (based on availability) during Reception, Staging, Onward-movement & Integration. Joint Service Lightweight Integrated Suit Technology (JSLIST) suits are also issued in Theater; however, there is sufficient stock on hand to issue prior to deployment if needed.

Naval Coastal Warfare (NCW) personnel are issued their PPE in the same manner as Seabees with the exception of SAPI. NCW personnel are currently issued improved SAPI plates and do not swap them for ESAPI plates upon arrival in Theater.

Riverine Squadrons (RIVRON) have not yet begun to issue PPE to RIVRON personnel. PPE issue will take place at the unit prior to deployment of personnel. RIVRON personnel will be issued the Tactical Maritime Body Armor System manufactured by KDH Defense Systems, Inc. which includes floatation/buoyancy capabilities. Riverine Group has received funding to purchase ESAPI plates as well as neck, shoulder and groin protection and is currently working procurement.

Explosive Ordnance Disposal (EOD) personnel are issued all PPE (including JSLIST suits) prior to deployment. EOD personnel are currently issued the Combat Integrated Releasable Armor System with ESAPI plates.

Expeditionary Logistics Support Group (ELSG) personnel are issued their PPE as soon as they report aboard the command. Personnel were previously issued their JSLIST suits in Theater. However, the process is being changed to facilitate issue prior to deployment. All ELSG personnel are issued SAPI plates. If they are required to move into the MEF AO in support of OIF, their SAPI plates are swapped for ESAPI plates. Upon return to Kuwait, the plates are swapped back to ensure availability of ESAPIs for follow-on personnel moving north.

Navy Individual Augmentees (IAs) are issued all PPE (including JSLIST suits) prior to beginning their training phase at various Army bases throughout the U.S. The Expeditionary Combat Readiness Center is working to identify a single site to process and train IAs. If Fort Dix is chosen as the single site, Navy will provide funding for the Army to continue to train and equip IAs. If Norfolk is chosen, IA personnel would be equipped at Norfolk and trained at one of several Army bases.

Mr. WELDON. Is the Navy pursuing any research and development programs with respect to armor technology?

Mr. SMITH. The Office of Naval Research (ONR) is actively involved in the development of improved, lightweight vehicle armor systems to enhance the survivability of the warfighter. The program supports the Department of the Navy (Navy & Marine Corps). These initiatives include: the development of hybrid materials for enhanced ballistic performance; advanced lightweight electromagnetic armor for protection against RPGs, anti-tank missiles, and land mines; and explosive resistant coatings.

While the focus of the Department of the Navy technology efforts is on craft protection, based upon Urgent Universal Needs Statement (UUNS) from Marine commanders in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) ONR has been pursuing a number of body armor technologies resulting from combat operations in Iraq. Recognizing the UUNS, Congress added $3M in FY 2006 funding for Protective Apparel Technology Systems. This effort is to develop new light weight personal armor materials, cooling technology for personal armor systems, advanced instrumented test surrogates to assess personal armor performance against blast pressure and ballistic injuries to the warfighter leading to new, deliverable personal armor systems. The Marine Advanced Combat Helmet System Initiative is also examining technologies to incrementally improve the Marine Corps helmet as well as to support the design of the next generation helmet as an integrated component of an advanced infantry system.

Mr. WELDON. Do you have any outstanding unfunded body armor requirements?

Mr. SMITH. No. There are no unfunded requirements for NECC.

Mr. WELDON. Do the armor plates used by Naval Coastal Warfare squadrons provide the same level of ballistic protection as ESAPI armor plates? Are these plates lighter than ESAPI?

Mr. SMITH. Naval Coastal Warfare is procuring and outfitting personnel with ISAPI plates which offer Level III+ protection with and outer ballistic vest while ESAPI provides level IV protection with outer ballistic vest. An analysis is being conducted to determine whether or not current requirements meet conditions to upgrade from ISAPI plates to ESAPI.

The ISAPI plates weigh approximately 3/4 lb LESS than ESAPI per plate or 1.5 lbs a set.

Note: ISAPI versus ESAPI

ISAPI—is the improved SAPI plate, which added the capability of the plate to take 6 to 10 more shots per plate. It will stop up to 3 BZ rounds (7.62/39API) armor piercing rounds. These rounds are the most commonly used in subject AOR.

ESAPI—is the enhance revision of the ISAPI, which will stop a sniper round, M–2 Bullets (7.62/54). This is a round that has been recently used in Afghanistan and Iraq by snipers.

Mr. WELDON. The subcommittee understands that the Army, from the onset of its new combat helmet program until 2005, had utilized a sole source to provide pad suspension kits. In 2005 the Army decided to modify its testing requirements in measuring impact protection going from single peak point assessments on each of the 14 impact points to taking the average of the required 14 peak point impact tests.

Why did the Army modify its testing requirements from single points to taking the average? Would this not make the requirements less stringent?

General SPEAKES. The Army has not changed the test procedure for measuring impact protection of the Advanced Combat Helmet (ACH). The test procedure used

is Federal Motor Vehicles Safety Standard 218 (FMVSS 218) for motorcycle helmets modified for the specific needs for impact site, test temperature and subsequent impacts. FMVSS 218 describes the test fixture, head forms and impact surfaces as well as calls out the data collection standard, which is Society of Automotive Engineers Standard J211. As part of the test procedure, we look at each single peak impact at all 14 data points as well as the average of impacts across all 14 points. The ACH is required and capable of meeting an average of 150 G's across the helmet, with no single impact in excess of 300 G's over temperatures ranging from cold to extreme hot.

Mr. WELDON. How many vendors were used after the test modification? How many vendors are currently providing pad suspension kits to the Army?

General SPEAKES. As mentioned above, the Army has used only one test procedure. The helmet pads are manufactured to Advanced Combat Helmet (ACH) performance specifications by the National Industries for the Blind (NIB) as a mandatory-sourced item through the Javits-Wagner O'Day program. NIB can use any qualified vendor's material for the pad system, and currently three manufacturers are qualified: Oregon-Aero (Scappoose, OR), Brock USA (Boulder, CO) and Team Wendy (Cleveland, OH). Additionally, the Army is testing a fourth manufacturer's pad material, Skydex (Centennial, CO), to determine if the manufacturer is capable of meeting the ACH performance requirements.

Mr. WELDON. What are the differences in these pad suspension kits?

General SPEAKES. While there may be slight differences, all pad suspension systems meet ACH performance specifications.

Mr. WELDON. How do these new pad suspension kits compare to the original pad suspension kit used? Was there a field user evaluation?

General SPEAKES. All pad suspension systems meet the ACH performance requirements. The qualification process for each vendor included a user evaluation to ensure proper fit, comfort, and stability.

Mr. WELDON. Please provide the testing criteria, assumptions, standards and results of all pad suspension systems that have been used in the Army's combat helmet or have been qualified for use in the Army's Combat Helmet.

General SPEAKES. Due to the operational sensitivity of the material requested, we are providing the information under separate cover to the committee.

Mr. WELDON. The Marines indicate the Army's helmet covers 15 percent less area around the head than the Marine Corps helmet. Have you received any feedback from Soldiers indicating that this is a problem? Any increased instances of injury? What are some of the benefits of the less area coverage?

General SPEAKES. The Army recently completed a study comparing the ACH and the Marine Corps Lightweight Helmet to the Personal Armor System, Ground Troops (PASGT), pronounced "Pass-get", helmet which has the same area of coverage as the Marine Corps helmet. The study reports that the ACH actually provides 8 percent less coverage, not 15 percent, and was superior to the PASGT helmet based upon the study criteria. We are providing the committee with a copy of this report under separate cover. Additionally, while the ACH has less area of coverage, it provides better situational awareness to the Soldier due to such factors as increased field of vision and improved sound localization.

Mr. WELDON. What type of injuries are we seeing in Theater as being most prevalent? How do you measure or track these injuries?

General SPEAKES. The primary reason for evacuation from Theater remains disease and non-battle injuries. For combat wounds, the top categories of injuries are to the arms, ear, legs, hands, head and face, as a result of explosions, gunshot wounds, rocket-propelled grenades, mortars and vehicle bombings. Medical authorities and equipment developers receive information on injury type and mechanism of injury from several sources. Every Soldier who dies in Theater undergoes a full forensic autopsy to determine cause of death and to identify opportunities to improve protective equipment and to modify tactics, techniques, and procedures. Over the past year, the Army has developed a Joint Theater Trauma Registry. The Trauma Registry provides a summary of injuries, mechanism of injury, protective equipment worn, and medical care provided. Both of these systems have helped improve Soldier equipment, change tactics and procedures, and modify medical doctrine in response to new threats on the battlefield. Most notably, autopsy information led to the fielding of the Deltoid Auxiliary Protector, which protects the upper arm and under arm area.

Mr. WELDON. How are Soldiers issued their combat helmets? Will all deploy with the most advanced configuration?

General SPEAKES. Soldiers are issued their helmets through the Rapid Fielding Initiative fielding teams from Program Executive Office-Soldier prior to deployment. Soldiers' heads are measured to ensure proper sizing, and they are taught the best

methods for adjusting the pad suspension system in the ACH to ensure a proper fit of the helmet.

Mr. WELDON. Please tell us some of the feedback you are receiving from Theater from troops wearing these current helmets and their respective suspension systems?

General SPEAKES. Post-Combat Surveys and Soldier Feedback show the ACH to be very popular with Soldiers. Soldiers appreciate the reduced weight, increased field of view and improved sound localization while wearing the helmet, and the improved ability to maneuver and fire from the prone position.

Mr. WELDON. What are the average impact protection levels of each of your helmet suspension systems? Please explain what that means in terms of protection from blunt trauma to the head.

General SPEAKES. Each pad suspension system meets the requirement of 150 G's average and no single impact greater than 300 G's. These performance requirements are based on the capability of the original manufacturer's helmet pad suspension system in the ACH. A force of 300–400 G's applied to the head is generally considered lethal. A force of 150 G's applied to the head is generally considered equivalent to a concussion.

Mr. WELDON. To your knowledge has there been a side-by-side test comparing the impact protection provided by the Army's helmet with original pad suspension kit and that of the Marine Corps helmet using the upgraded sling suspension kit using the same metrics? If so what were the results?

General SPEAKES. Yes. In October 2004, the Vice Chief of Staff of the Army directed the U.S. Army Infantry Center (USAIC) to conduct a holistic review of requirements and materiel solution performance of Soldier "combat" head protection. The study team focused primarily on the differences between the ACH and the Personal Armor System, Ground Troops (PASGT) helmet to recommend the best ground combat helmet to wear under all "Mission, Enemy, Terrain and Weather, Time, Troops Available, and Civilians", or METT–TC, conditions. The USAIC Study also evaluated the Marine Corps Lightweight Helmet. We are providing the committee with a copy of this report under separate cover.

Mr. WELDON. Please describe the current condition of the body armor industrial base?

General SPEAKES. Industry has been responsive to meeting our current needs. We know of no impediments in our industrial base that would preclude the Services from meeting any new requirements. The Army has contracts with:

—6 Enhanced-Small Arms Protective Insert vendors: Ceradyne (Costa Mesa, CA), BAE (Formally CERCOM, Vista, CA), Simula (Phoenix, AZ), Armor Works (Tempe, AZ), Protective Materials (Miami Lakes, FL), Armacel Armor (Camarillo, CA);

—1 Outer Tactical Vest vendor: Point Blank Body Armor (Deerfield Beach, FL);

—1 Deltoid and Auxiliary Protector vendor: Point Blank Body Armor (Deerfield Beach, FL); and

—2 Enhanced Side Ballistic Insert vendor: Ceradyne (Costa Mesa, CA) and Armor Works (Tempe, AZ).

Mr. WELDON. Are there any production or material constraints such as supply of ceramic tiles?

General SPEAKES. No.

Mr. WELDON. Do you have any outstanding unfunded body armor requirements?

General SPEAKES. Yes, the Army has a $1.23 billion body armor funding requirement in fiscal year 2007.

Mr. WELDON. Please describe the current efforts being pursued for the next advancement in body armor?

Can you describe some of the solutions you are currently reviewing?

General SPEAKES. The Army is focusing on improving Interceptor Body Armor (IBA) functionality. The Outer Tactical Vest will be redesigned to incorporate: better fighting load carriage distribution; Enhanced Side Ballistic Insert integration; and fast access to an injured Soldier's front and rear torso area by medical personnel or first responders providing battle field first aid.

Mr. WELDON. How quickly could the "system" evaluate and then incorporate new body armor developments?

General SPEAKES. That would depend on a number of factors. First, does it meet our ballistic requirements? Are the factors of form, fit and function the same or similar to what we are using now? Can the vendor meet production needs quickly or is there a "ramp up" period required? For example, when we received the Operational Needs Statement for Enhanced Side Ballistic Insert in September of 2005, it took only four months to complete all testing and move into production and one month after that to deliver the first side plates in Theater by January 2006.

Since the beginning of the war, the Army has made seven major improvements to IBA. We continually query industry for innovative ideas to improve IBA, and each alternative must be thoroughly tested to insure it meets operational suitability before it is fielded to Soldiers.

The most recent improvement to the IBA ensemble is the Enhanced Side Ballistic Insert (ESBI). In September 2005, the Army approved a U.S. Central Command Operational Needs Statement for increased body armor protection based on the changing threat. The Army immediately began developing, testing, and evaluating side plates. The IBA side plate procurement started in January 2006 and ramped to 30,000 sets per month in June 2006. As of July 14, 2006, the Army has procured over 95,000 ESBI sets and will meet the Theater requirement of 201,000 sets by December 2006. The side plates have the same ballistic characteristics as the Enhanced Small Arms Protective Inserts and provide increased ballistic protection for the Soldier. The side plate is fielded as a complete system: a ballistic plate with a specially designed pouch that is affixed to each side of the Outer Tactical Vest.

Mr. WELDON. What is the status of the Enhanced Side Ballistic Insert program? When do you expect completion of the Theater requirement?

General SPEAKES. Enhanced Side Ballistic Insert is currently in production and being fielded to Theater, with an expected completion date of December 2006.

Mr. WELDON. How many vendors are currently producing Enhanced Small Arms Protective Inserts and Enhanced Side Ballistic Inserts?

General SPEAKES. Currently there are:

—6 Enhanced-Small Arms Protective Insert vendors: Ceradyne (Costa Mesa, CA), BAE (Formally CERCOM, Vista, CA), Simula (Phoenix, AZ), Armor Works (Tempe, AZ), Protective Materials (Miami Lakes, FL), Armacell (Camarillo, CA); and

—2 Enhanced Side Ballistic Insert vendor: Ceradyne (Costa Mesa, CA) and Armor Works (Tempe, AZ).

Mr. WELDON. On average how many body annoy solutions would you say you have tested and evaluated?

General SPEAKES. The Army's Project Manager for Soldier Equipment has evaluated over 30 submissions from industry over the last 40 months resulting in seven improvements to the Interceptor Body Armor system.

Mr. WELDON. What is the policy for armored vehicles leaving Forward Operating Bases (FOBs)? Are only vehicles with Level II and above armor allowed to go outside the wire?

General SPEAKES. Current policy, found in FRAGO no. 77, dated December 20, 2005, is that effective January 1, 2006, any vehicle departing the safety of the FOB must have at least Level II armor. Multi National Corps-Iraq issued a policy memorandum on June 25, 2006, in which General George W. Casey, commanding general, Multinational Forces-Iraq, highly encouraged his subordinate commanders to issue their own policy to restrict combat patrols to Up-Armored High Mobility Multi-purpose Wheeled Vehicles (UAH–M1114/1151), Armored Security Vehicles (ASV–M1117) and Marine Armor Kits (M1043 and M1045) kitted vehicles when their units reach 85 percent fill of their required vehicles. In essence, this means that only Level I vehicles may depart the FOB for units with 85 percent vehicle issue. This tightening of the vehicle policy is possible because the Army has continued to improve the survivability of the vehicle platforms to ensure that vehicles operating off the FOB have the highest possible level of protection.

Mr. WELDON. What's the status of armoring turrets and hatches on vehicles? We've seen a lot of "Level III" armor solutions that look pretty effective (e.g. "pope glass"). What's the "system" doing to help this effort or provide even better armor?

There were several turret armor designs under test and evaluation several months ago, what happened to these?

General SPEAKES. The Army continues to make progress on the Enhanced Gunner Protection Kit (GPK). To provide an enhanced capability quickly, the Project Manager (PM) delivered 1,000 commercially available Transparent Armor Gunshields that allow gunners to remain behind armor while still having frontal visibility. As of July 6, 2006, 975 initial kits are installed. As additional 800 Marine Corps Transparent Armor Gunshields were purchased, and the 125 kits have been shipped. Production is projected for completion in August 2006.

Currently, the Army is updating the Government-owned Technical Data Package a successful user evaluation on the Objective GPK, was concluded in late June 2006. Production is scheduled to start in September 2006.

Mr. WELDON. Is the armor for the M1151/M1152 Up-Armored High Mobility Multi-purpose Wheeled Vehicles (HMMWV) the same as the M1114 Up-Armor HMMWV? (My understanding is that the answer is YES).

How quickly can the "system" evaluate and then incorporate new vehicle armor advancements?

General SPEAKES. Although some material compositions for the armor package differ, the M1151, M1152, and M1165 provide an equivalent or greater protection as the M1114. The significant advantage to the M1151, M1152, and M1165 is the flexibility to add or remove the armor based on mission, threat and technology. The M1114 armor cannot be removed. It normally takes 2–3 months to design, test and start production; a more complex design can take at least 6 months.

Mr. WELDON. Are there any definite trends or indications that troops are having more vehicle accidents (e.g. roll-overs) because they have not had training on the armored vehicles before deploying?

If we are seeing more instances of accidents and roll-overs, would you agree that combat helmets should provide the best level of blunt impact protection?

General SPEAKES. The U.S. Army Combat Readiness Center has not identified training deficiency as a primary factor in roll-over accidents. However, operational reports from Theater reveal that most accidents occur during the first few months after a unit has arrived in Theater, indicating that driver proficiency is an accident factor. The Army has provided limited Add-on Armor (AoA) kits and M1114 Level I HMMWVs as training sets for use in training Soldiers in the driving of armored Tactical Wheeled Vehicles (TWVs) prior to deployment. Further, drivers are provided additional training concerning driving armored TWVs in Kuwait before "crossing the berm" into Iraq and on the HMMWV Egress Assistance Trainer (HEAT), which simulates a vehicle roll-over. In regard to your second question, the combat helmet together with the seat restraint are the primary items of equipment which provide protection to Soldiers in roll-over accidents.

Mr. WELDON. Question. What is the status of the industrial base in meeting new vehicle armor requirements?

General SPEAKES. Industry has been responsive to meeting our current needs. We know of no impediments in our industrial base that would preclude the Services from meeting any new armor requirements. In fact, the competitive bidding process in our Future Tactical Truck System Advanced Concept Technology Demonstration brought new companies such as Lockheed Martin into the process, as well as our traditional industrial partners.

Mr. WELDON. When does the Army expect to reach maximum monthly level of production for the Up-Armored HMMWV (UAH)?

General SPEAKES. The Army has been working closely with the UAH manufacturer to ensure the production meets the requirements of all UAH customers. In May 2006, the manufacturers produced 988 vehicles and 1,074 vehicles in June, and the forecast is for over 900 vehicles to be delivered during each month of July and August 2006.

Mr. WELDON. I understand there is a HMMWV Egress Assistance Trainer (HEAT) operating in Theater that helps simulate a vehicle roll-over and helps the gunner train in exiting the vehicle in such a situation.

Are you aware of this program? And what's the status of this program? Are there plans to provide more trainers here in the continental United States?

General SPEAKES. Yes, there are currently three HEAT trainers being used in Theater, and Theater requires a total of 31 trainers. The Aberdeen Test and Evaluation Center (ATEC) was in Theater in late June 2006 to perform operational testing, and safety certification is pending. No formal test report has been issued but indications are that there are no significant problems with the trainer. There is also an effort ongoing to address the number of HEAT trainers needed for training in the U.S. The Army Training Support Center is leading the team with all concerned Army organizations to evaluate this issue. The team expects to publish a final report showing the requirement for trainers for the continental U.S. forces by July 31, 2006.

Mr. WELDON. Can you briefly describe your long term vehicle armoring strategy/initiative?

General SPEAKES. The Long Term Armoring Strategy (LTAS) is the objective armor solution for the Armor Tactical Wheeled Vehicle fleet. The objective requirement for LTAS is to develop an armored solution for vehicles that can be tailored for the mission. This is accomplished by means of "A" and "B" Kits. The "A" Kit is installed on the vehicle as a part of the vehicle manufacturing process. This kit is integrated into the vehicle and cannot be removed. It provides the superstructure onto which the "B" Kit armor can be installed and armor for hard-to-armor portions of the vehicle, such as the undercarriage. The "B" kit is the removable armor panels which give the vehicle the same level of protection as the M1114 UAH.

Mr. WELDON. What steps are being taken to fix the current gaps in fielding from the US to Afghanistan and Iraq? What is the timeline for full fielding of hemostatic agents?

General SPEAKES. The delivery schedule for the HemCon chitosan dressings was accelerated to field 120,000 dressings from June 2006 to November 2006. Additionally, 159,000 substitute hemostatic dressings (QuikClot) will be delivered between June and August 2006 to augment the HemCon bandage fielding. The HemCon chitosan dressings will be fielded according to the Army policy of 5:3:1 (5 per medic, 3 per combat lifesaver, and 1 per Soldier) by November 2006.

Mr. WELDON. Is it true that even though the Army's policy since last year is for every Soldier to have a hemostatic agent, only medics and combat lifesavers have them today?

General SPEAKES. Although it is true that currently not every Soldier has a HemCon chitosan dressing, it is untrue to state that only medics and combat lifesavers have them. Army policy establishes a requirement that every Combat Medic carry 5 bandages, every Combat Lifesaver carry 3 bandages, and every Soldier carry 1 bandage. Until fielding was complete, Army policy allowed every Combat Medic to be issued 3 bandages until sufficient stocks were available to meet the 5:3:1 fielding plan. The current Theater requirement is calculated at 181,000 HemCon chitosan dressings. Over 110,000 are presently in the hands of Soldiers, medics, and combat lifesavers within the Central Command Area of Operations which includes both Iraq and Afghanistan. In addition, the 159,000 QuikClot dressings in Theater provide a hemostatic product for trained medical personnel to use until the HemCon chitosan dressings are available for all Soldiers, medics, and combat lifesavers.

Mr. WELDON. Once hemostatic agents are shipped to Theater, how are they accounted for? Who tracks their unit fielding? Who tracks usage and replacement requirements? How are these communicated up the chain of command, starting at the lowest levels?

General SPEAKES. Hemostatic agents are "pushed" to the units in Theater to facilitate initial fielding. The fielding plan is developed by the respective Theater commands, with the priority going to units and Soldiers in direct combat. The hemostatic bandage is classified as an expendable item because it is consumed in use. As such, it is not formally tracked or accounted for as other pieces of equipment are. Bandages are requisitioned through routine medical supply channels when replacement items are required. In June 2006, the Headquarters Department of the Army issued a clarifying message on the subject of Theater Provided Equipment. The hemostatic bandage was identified as an item to remain in the Theater which requires units to leave these items behind in Theater. This requirement has been emphasized with senior supply officers and deputy commanders in Theater. Theater is developing a policy whereby all hemostatic bandages will be turned in to forward medical supply points prior to a unit rotating out. All bandages will then be inspected for serviceability and expiration dates before being reissued to a new unit. Any shortfalls due to usage, damage or expiration will be replaced through medical supply systems.

Mr. WELDON. Is there a long-term fielding plan, and if so, will arterial coagulants be included in the annual budget request in coming years?

General SPEAKES. Yes. The current fielding plan calls for distribution of 120,000 more dressings between June 2006 and November 2006 to meet the initial HemCon fielding requirement. After the initial requirement is met in November 2006, Theater and the Army will decide whether a separate sustainment contract or prime vendor distribution based on unit requirements and stockage inventory will meet Army sustainment requirements. This sustainment requirement will part of the annual Operation and Maintenance budget request.

Other potential arterial coagulants are in various stages of development, testing and Federal Drug Administration approval, both internally and externally to the Department of Defense.

Mr. WELDON. The Army recently executed a contract for $2.25 million of QuikClot. What is the fielding plan for that procurement, including timeline?

General SPEAKES. A quantity of 155,000 QuikClot bandages are scheduled for delivery to the Theater between June and August 2006. To date, 80,000 of these bandages have arrived in Theater. These bandages will be fielded through routine medical supply channels until the HemCon bandage requirement is fully met.

Mr. WELDON. What types of helmets are issued to expeditionary airmen?

General MCCOY. The Air Force currently issues the Personnel Armor System for Ground Troops (PASGT) to most expeditionary Airmen. There are specialties (security forces, EOD, some civil engineers) that satisfy their unique requirements with the Advanced Combat Helmet (ACH). In addition, our Airmen performing in-lieu-of (ILO) duties with the US Army are issued the ACH as well. The Air Force re-

cently made the decision to ensure our Airmen in the AOR are outfitted with the best protective equipment available and resourced 23,200 ACHs and 5,000 ballistic liner suspension system (padded) inserts for the existing PASGT helmets. The ACHs and new padded helmet inserts are earmarked for issue to our troops in Iraq, Afghanistan and throughout the USCENTCOM AOR.

Mr. WELDON. Has the Air Force considered adopting either the Army or Marine Corps helmets as its primary helmet for expeditionary airmen performing ground force missions?

General MCCOY. Yes, certain disciplines have already transitioned to the Advanced Combat Helmet (ACH) to satisfy unique mission requirements. Moreover, the Air Force has purchased 23,200 ACHs and 5,000 ballistic liner suspension systems for existing PASGT helmets for expeditionary Airmen in the USCENTCOM AOR. Future plans are under consideration and may require a replacement/fielding initiative to our current standard helmet. At that time, consideration will be given to fielding the Advanced Combat Helmet (ACH) and/or Lightweight Combat Helmet (LWCH) across the broader Air Force.

Mr. WELDON. What type of helmet is issued to Air Force Security personnel?

General MCCOY. Air Force Security Forces issues the Advanced Combat Helmet (ACH) to its personnel with the Marine Corps GENTEX Light Weight Helmet as a suitable substitute. Our security forces personnel adopted the ACH as a standard issue helmet, because the new helmet offered better ballistic protection, improved field of vision and increased maneuverability and firing capability. Additionally, based on studies conducted by the US Army, the ACH reduced blunt force trauma due to the improved suspension system the new helmet provided.

Mr. WELDON. How do deployed expeditionary airmen in OIF and OEF who are assigned ground force missions such as convoy security receive their personnel protection equipment?

General MCCOY. Personnel assigned to ground force convoy missions are required to deploy with Individual Protective Equipment (IPE) issued to them from home station. Personnel tasked to deploy with in-lieu-of (ILO) forces, performing ground force missions, are provided their full compliment of IPE by the Army, which includes the Advanced Combat Helmet (ACH). Organizations deploying Battlefield Airmen, such as the Tactical Air Control Party (TACP), outfit their personnel with IPE specifically tailored to their unique combat mission.

Mr. WELDON. Is the Air Force pursuing any research and development programs with respect to armor technology?

General MCCOY. Yes. The Air Force is engaged in researching armor technologies for vehicles and individual protective equipment. The Air Force Protection Battlelab and the Air Force Research Laboratory are the primary sources for force protection R&D initiatives. Our armor technology modernization efforts are funded through research development funding (3600 funding).

Mr. WELDON. Do you have any outstanding unfunded body armor requirements?

General MCCOY. Yes. GWOT requests were submitted for $106M to support shortfalls for the Air Reserve Components and to replace equipment for warfighters intheater due to the increasing technological advances of protective equipment (e.g. armor piercing protection & shoulder protection).

The Air Force has purchased 23,200 Advanced Combat Helmets (ACHs) and 5,000 ballistic liners for inclusion in the PASGT helmet. Additionally, pending a decision to adopt the ACH or variant helmet as the standard for combat airmen, the Air Force would require $53M in additional funding to support the initiative.

Mr. WELDON. What type of injuries are we seeing in theater as being most prevalent? How do you measure or track these injuries?

General CATTO. The Naval Health Research Center (NHRC) Technical Report 06–01, "HEAD, FACE AND NECK INJURIES DURING OPERATION IRAQI FREEDOM II: RESULTS FROM THE U.S. NAVY-MARINE CORPS COMBAT TRAUMA REQISTRY" revealed that 75% of all casualties in the study had head, face or neck injuries resulting from battle injuries (Improvised Explosive Devices (IEDs), mortars, gunshot wounds) and 25% had non-battle injuries (motor vehicle crashes, blunt traumas, recreation/training). The NHRC's Combat Trauma Registry records, tracks, and monitors all injuries for service personnel treated in the Marine Corps' area of operations in Iraq.

Mr. WELDON. How are Marines issued their combat helmets? Will all deploy with the most advanced configuration?

General CATTO. Active Duty Marines are issued their combat helmet from their supporting Consolidated Issue Facility (CIF). Reserve Marines draw their Lightweight Helmet (LWH) from either the Critical Asset Rapid Distribution Facility (which supports all Marine Forces Reserve (MARFORRES) units) or the gaining Marine Expeditionary Force (MEF). The LWH is an individual issue item. There are

sufficient numbers of the LWH available to provide all deploying Marines with the most advanced version of the Marine Corps' combat helmet.

Mr. WELDON. Please tell us some of the feedback you are receiving from theater from troops wearing these current helmets and their respective suspension systems?

General CATTO. We are getting mixed feedback from Marines in theater concerning their experience with either the sling or pad suspension system. The issue of which system provides the best level of comfort is an individual choice. Recent comments submitted by a Chief Warrant Officer in theater (fourth deployment since 2003) reflect our concern about the human factors aspects of the pad suspension system. His unit is 50/50 split on which suspension system is preferred. Negative comments about the pad suspension system (Oregon Aero) used by his Marines include heat retention, lack of air circulation, pads getting filthy very quickly (particularly if you sweat a lot), ripping easily, and fine sand causing velcro tabs and pads to fall out.

Mr. WELDON. What were some of the reasons for the Marine Corps's decision in choosing an upgraded sling suspension kit versus going with a pad suspension kit? Please briefly discuss the analysis of alternatives used for the combat helmet program?

General CATTO. The Lightweight Helmet (LWH) Operational Requirements Document (ORD) required the procurement of a reduced weight Personal Armor System Ground Troops (PASGT) helmet. At the time of development and contract award, no pad suspension system was offered. Later, during a limited user evaluation in Nov. 2002, Marines indicated a preference for the LWH sling suspension system over the pad suspension system that was tested. Because there was no compelling reason to slow the LWH procurement and adopt a pad suspension system, the Marine Corps chose to remain with the sling suspension system.

Mr. WELDON. What are the average impact protection levels of the sling suspension system? Please explain what that means in terms of protection from blunt trauma to the head?

General CATTO. The Lightweight Helmet (LWH) Operational Requirements Document (ORD) allows for a 150G (Objective) and 200G (threshold) peak acceleration at an 8 feet per second fall rate, which is roughly equivalent to an individual hitting their head on the ground after tripping and falling. The LWH with sling suspension easily meets these requirements with an average impact load of 157G at 8 feet per sec.

Mr. WELDON. What are the impact protection test requirements of the Lightweight Combat Helmet? At what velocity are impact protection tests performed? For example 8 feet per second, 10 feet per second? The Army uses 10 feet per second as its standard. Why do the Marines use 8 feet per second? Does this make the impact protection requirement easier to achieve?

General CATTO. The Lightweight Helmet (LWH) Operational Requirements Document (ORD) allows for a 150G (Objective) and 200G (threshold) peak acceleration at an 8 foot per second fall rate, which is roughly equivalent to an individual hitting their head on the ground after tripping and falling. The 8 feet per second impact testing requirement was the approximate injury threshold for the Personal Armor System Ground Troops (PASGT) helmet which the LWH replaced. This has been the standard measure for the last two generations of Marine Combat helmets.

Mr. WELDON. To your knowledge has there been a side-by-side test comparing the impact protection provided by the Army's helmet with original pad suspension kit and that of the Marine Corps helmet using the upgraded sling suspension kit using the same metrics? If so what were the results?

General CATTO. The Office of the Secretary of Defense is currently conducting side-by-side impact testing of the Army's Advanced Combat Helmet (ACH) and the US Marine Corps Lightweight Helmet (LWH) at the US Army Aeronautical Research Lab. This is the first deliberate, simultaneous comparative testing of these two systems by one lab. A comparison of separate ballistic impact testing previously conducted for these two systems shows a slight advantage for the LWH helmet over the ACH.

Mr. WELDON. Has the Marine Corps conducted side-by-side ballistic testing of the Marine Corps Lightweight Helmet with a sling suspension and one with a pad suspension? If so, what were the results?

General CATTO. Recent ballistic testing funded by the Marine Corps at the University of Virginia showed that there is no statistical difference between the performances of sling or pad suspension systems in protecting the head from ballistic impacts. Preliminary results suggest the suspension system plays no role in mitigating force transmission to the skull.

Mr. WELDON. Are you aware of any test data that demonstrates ballistic performance degradation of combat helmets that utilize pad suspension kits?

General CATTO. The Office of the Secretary of Defense is sponsoring a study at the US Army Aeronautical Research Lab to determine pad degradation at cold, ambient and hot temperatures. Currently, we are not aware of any other work that has been done to measure the potential degradation of ballistic performance in pad systems.

Mr. WELDON. Please briefly describe the ongoing experiment being conducted at University of Virginia (UVA) regarding the testing, modeling, and simulation of combat helmets and suspensions systems? What is this study trying to accomplish? Will this study also measure non-ballistic impacts such as riding in a pitching combat vehicle or other forms of blunt trauma to the head?

General CATTO. The initial Marine Corps funded study at the University of Virginia sought to determine if a difference exists in the ballistic response of the helmet suspensions in terms of force transmitted to the head. Preliminary results suggest the suspension system plays no role in mitigating force transmission to the skull. This study has been expanded to examine the effects of non-ballistic.

Mr. WELDON. The acting medical officer of the Marine Corps in April 2005 recommended additional assessment of the ability of the BLSS to protect against ballistic threats and recommended that the manufacturer of the BLSS conduct this testing and forward the data to Marine Corps Systems Command for further review. Did you or anyone at Systems Command ask the BLSS manufacturer to conduct these tests? Do you know if the BLSS manufacturer conducted these tests? Was the data reported back to Marine Corps Systems Command?

General CATTO. Oregon Aero, the BLSS manufacturer, has not provided any ballistic impact test results to the Marine Corps Systems Command. A formal request was submitted to Oregon Aero by MajGen W.D. Catto on 19 June 2006 asking for any test data concerning protection from ballistic and blast events. To date, no test data has been provided nor is there any indication that this testing has been conducted by the manufacturer.

Mr. WELDON. Please describe the current condition of the body armor industrial base? Are there any production or material constraints such as supply of ceramic tiles?

General CATTO. The body armor industrial base is robust, with a number of large and small businesses capable of providing ceramic plates. There are no material constraints at this time.

Mr. WELDON. Do you have any outstanding unfunded body armor requirements?

General CATTO. No. All body armor requirements have adequate funding.

Mr. WELDON. Please describe the current efforts being pursued for the next advancement in body armor? Can you describe some of the solutions you are currently reviewing? How quickly could the "system" evaluate and then incorporate new body armor developments?

General CATTO. We are working with a variety of laboratories (Defense Advanced Research Projects Agency, Office of Naval Research, Army Research Laboratory, Naval Research Laboratory, Marine Corps War fighting Laboratory), utilizing the Small Business Innovation Research (SBIR) program, and with industry in three principal areas—significant weight reduction, increased area of protection, and protection against known ballistic threats. We do not foresee any technological advances in the next 3–5 years that will provide us with a significant reduction in the weight of ceramic plates or the ability to increase the area of ballistic plate coverage without adversely impacting flexibility and mobility. We do anticipate that ceramic plates capable of stopping emerging threat munitions, such as M993 and M995, will be available in the next 6–12 months.

Mr. WELDON. What is the status of the enhanced side ballistic insert program? When do you expect completion of the theater requirement? How many vendors are currently producing ESAPI and ESBIs?

General CATTO. By the end of Apr. 2006, we fielded 28,882 sets of Side SAPI to the theater. We have 19,618 sets of Side SAPI on order to support deploying Marine Expeditionary Units. Delivery began in July 2006 and fielding should be completed by Jan. 2007. Additionally, we have a competitive procurement on the street to procure 90,699 sets of Side SAPI. Contract award will occur in Sep. 2006 and we anticipate fielding will be completed within 12 months. Currently, the Marine Corps has three vendors under contract who supply Enhanced Small Arms Protective Insert (ESAPI) and Enhanced Side Ballistic Inserts (ESBI) plates.

Mr. WELDON. On average how many body armor solutions would you say you have tested and evaluated?

General CATTO. Dozens of potential solutions have been evaluated.

Mr. WELDON. What is the Marine Corps acquisition strategy for procuring enhanced side ballistic inserts and front and back ESAPI plates?

General CATTO. Side Small Arms Protective Inserts (SAPI)—Our initial procurement of 28,882 sets of Side SAPI plates were to the Interceptor Small Arms Protective Insert (I–SAPI) specification. The remaining 2 procurements required Enhanced Small Arms Protective Insert (E–SAPI) plates. We will exchange the Side SAPI plates currently in theater with E–SAPI specification plates. Front and Back E–SAPI—Fielding continues. To date, we have fielded nearly 42,000 sets of E–SAPI plates. We anticipate reaching our Acquisition Objective during 4th Qtr, FY07.

Mr. WELDON. What is the policy for armored vehicles leaving Forward Operating Bases (FOBs)? Are only vehicles with Level II and above armor allowed to go outside the wire?

General CATTO. Yes, only vehicles with Level II and above armor are allowed to go outside the wire.

QUESTIONS SUBMITTED BY MR. ISRAEL

Mr. ISRAEL. 1. What steps are being taken to fix the current gaps in fielding from the US to Afghanistan and Iraq? What is the timeline for full fielding of hemostatic agents?

2. Is it true that even though the Army's policy since last year is for every soldier to have a hemostatic agent, only medics and combat lifesavers have them today?

3. Once hemostatic agents are shipped to theater, how are they accounted for? Who tracks their unit fielding? Who tracks usage and replacement requirements? How are these requirements communicated up the chain of command, starting at the lowest levels?

4. Is there a long-term fielding plan, and if so, will arterial coagulants be included in the annual budget request in coming years?

5. The Army recently executed a contract for $2.25 million of QuikClot. What is the fielding plan for that procurement, including timeline?

General SPEAKES. [The information was not available at the time of printing.]

Mr. ISRAEL. Why did the Marines conduct an independent study on Hemostatic agents and what were the results?

General CATTO. The Marine Corps conducted a study with the Office of Naval Research to determine the efficacy of hemostatic agents and to select the best product. In 2000 when the research began, hemostatic agent technology was very immature and independent studies to validate manufacturer's claims were prudent.

The result showed that QuikClot had a 0% mortality rate and that HemCon had a 28.6% mortality rate.

Mr. ISRAEL. Why did the Marines purchase and field Quikclot?

General CATTO. The Marine Corps purchased and fielded QuikClot to combat deaths on the battlefield from war fighters bleeding to death. The leading cause of preventable battlefield death since the Civil War has been blood loss. The Marine Corps was improving the Individual First Aid Kit (IFAK) and wanted to put a hemostatic dressing in the kits. As shown in the previous answer, research proved that QuikClot was the best choice for the war fighter. QuikClot was then fielded in every IFAK.

Mr. ISRAEL. Can you describe the fielding plan for Quikclot?

General CATTO. QuikClot was fielded as a component of the Individual First Aid Kit (IFAK). The initial IFAKs went out to the fleet in early FY 2002 and the complete acquisition objective (AO) has been met as of FY06. The product was also fielded in response to Urgent Universal Need Statements for Vehicle Medical Kits and Combat Life Saver bags.

Mr. ISRAEL. Does every Marine in theater (Afghanistan and Iraq) have Quikclot, and if so, how were they trained in the use of the Hemostatic agent?

General CATTO. The complete Acquisition Objective (AO) has been met and every Marine in the operating forces has been fielded an Individual First Aid Kit (IFAK) which contains QuikClot in it. The product has also been fielded in Vehicle Medical Kits and Combat Life Saver kits. The training of the product is conducted at the unit level by unit medical personnel utilizing training IFAKS prior to deployment. The use of the product is also taught at Marine Corps Recruit Depots as part of the boot camp training package.

Mr. ISRAEL. Does the USMC intend to purchase and utilize HemCon and if not, why?

General CATTO. The Marine Corps does not have any plans to purchase HemCon. The product fails to work in field applications 66% percent of the time and the product costs $98.00 per bandage. QuikClot works 100% of the time with 0% mortality and costs $9.80 per package.

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